Fraser Valley Health Region / BC Cancer Agency

Fraser Valley Health Centre and Eastern Fraser Valley Cancer Centre

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Project Definition Report

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EXECUTIVE SUMMARY

INTRODUCTION

In June 2000, the Fraser Valley Health Region (FVHR) and the BC Cancer Agency (BCCA) submitted a proposal to construct a new 300-bed hospital, to replace the existing MSA General Hospital, and a new regional cancer centre on lands owned by the Regional Hospital District on Marshall Road in Abbotsford, British Columbia.

In late June 2000, the FVHR and BCCA received approval and planning funds from the Ministry of Health to proceed with planning for these facilities with the first objective being to submit a Business Case, for consideration by the Ministry, early in October 2000.

This document serves as an appendix to the Business Case for this project and includes four major sections which are summarized below:

1 PROGRAM PARAMETERS

The purpose of this section is to document health program planning factors having a substantial influence on the development of the Master Program.

Service Area

The FVHC will continue to serve two overlapping catchment areas. A community catchment area, which is comprised principally of LHA 34 Abbotsford, which will continue to serve patients seeking primary and secondary care. Selected secondary and tertiary programs and services at FVHC will draw from a much wider area encompassing the FVHR as a whole and perhaps surrounding regions.

Demography

Source: PEOPLE 25

The following table illustrates historical and projected populations for the Abbotsford LHA, the FVHR and the Province of British Columbia. These numbers were used for master programming purposes for the FVHR portion of the project.

	Abbotsford LHA 34	FVHR (incl. LHA 34)	BC (incl. FVHR)
1996	110,338	231,345	3,882,043
2000	116,176	243,175	4,067,179
2005	127,618	267,935	4,372,208
2010	139,601	296,511	4,898,030
2015	152,019	327,187	5,052,562

Over the 15 years, from 2000 to 2015, the FVHR population is expected to increase 36.2% compared to 25.6% for BC. LHA 34 Abbotsford comprises almost 50% of the population of the FVHR.

The population base served by the existing cancer centres in Vancouver and Surrey, plus the new EFVCC in Abbotsford will include the Lower Mainland and all of the North.

Planning Horizon

Facility planning will be based upon conditions estimated to exist in 2015.

Major Roles

Three major roles have been identified for further development at the new site.

1. The FVHC will continue to function as a **community health centre**, which includes a coordinated network of on-site and off-site services. The latter may include outreach services of the FVHR or community-based services operated by other agencies, but in cooperation with the Region. Preventative and care services will respond to the health care needs of population groups served by the Centre (e.g., specific ethnic/cultural groups, the geriatric community, the chronically mentally ill, children and adolescents, etc.), as well as meet the regional targets of 90% or higher of non-surgical and 85% of surgical service demand by 2010. Education and research activity will focus on the health needs of the Region's residents and staff.

2. The FVHC will add a number of **new programs** to augment and enhance existing programs and to better rationalize service delivery on a regional basis and to reflect a 'closer to home' care philosophy (e.g., renal dialysis, vascular surgery, enhanced medical imaging services, including MRI, nuclear medicine and echocardiography, child and adolescent mental health services, etc.), while also maintaining strong inter-regional relationships with Simon Fraser, South Fraser and Vancouver regions to ensure timely and appropriate access to services not planned for within the region (e.g., neurosurgery, cardiac and thoracic surgery, specialized pediatric surgery, etc.).

3. The site will also accommodate a new **regional cancer centre**, which together with the Surrey and Vancouver Centres, will serve the population of the Lower Mainland and the North of BC.

Ambulatory Care

The FVHR/BCCA will greatly expand its role in ambulatory care by offering a comprehensive array of outpatient/day programs, community and social services responding to existing and future new care programs, including:

- Surgical Day Care/Same Day Admit
- Pre-Admission Clinic
- General (Medical) Day Care (incl. Endoscopies)
- Women's Health Services
- Child Health Services
- Generic Multi-Use Clinics (incl. Wellness Programs)
- Renal Clinic

Inpatient Care

The table below illustrates existing beds as of August 2000 and the planned future beds envisioned to the year 2005 and 2015.

Fraser Valley Health Centre Bed Summary

Type	Existing Beds (2000)	Planned Future Beds 2005	2015
General Purpose Units			
Medical	76	} 132	} 142
Surgical	38		
Telemetry	12	14	16
Oncology	-	5	10
Subtotal, General Purpose Units	126	151	168
Special Purpose Units			
Obstetric, Ante/Postpartum/LDRP	21	28	32
Pediatric	18	20	20
Psychiatric	20	29	36
Intensive/Coronary Care	10	13	18
Surgical Step Down	4	6	6
Palliative	-	7	10
Subtotal, Special Purpose Units	73	103	122
Total Beds	199	254	290
Neonatal Care			
Special Care	5	7	10
Total, Neonatal Care	5	7	10
TOTAL	**204**	**261**	**300**

Cancer Care Services

The new regional cancer centre on the site of the replacement MSA General Hospital will be planned to support the following workload volumes.

	2000	2005	Projected 2015/16
Cancer Frequency			
Area 1 (Vancouver, Burnaby, Richmond, North Shore, Coast Garibaldi)	5,008	5,545	7,002
Area 2 (Fraser Valley, South Fraser, Simon Fraser Health Regions)	4,489	5,303	7,358
Northern Region (Peace-Laird, Northern Interior, Northwest Interior)	802	963	1,340
Total	10,299	11,811	15,700
EFVCC Outpatients			
New Patient Appointments	0	1,200	2,800
Follow-Up Visits	0	7,200	16,800
Medical Oncology			
Chemo Treatment New Courses	0	200	480
Chemo Visits	0	2,800	6,400
Radiation Oncology/Therapy			
Cancer Cases for Lower Mainland	0	11,811	15,700
Treatments/Visits EFVCC	0	2,000	1636
Fractions Required	0	18	22
Fractions EFVCC [4]	0	36,000	36,000

Education

The FVHC/EFVCC will host both undergraduate and graduate students from medical and nursing programs. Technical and professional trainees in the allied health disciplines will also be accommodated on-site for the practicum phase(s) of their curricula.

Research

The FVHC/EFVCC will actively promote on-site clinical research. Clinical research protocols will encompass epidemiological-type studies as well as clinical trials; the latter may be coordinated through established clinical programs or may be conducted as independent protocols.

2 MASTER PROGRAM

Space Summary

The table below illustrates gross areas in square metres (CGSM) for each service category of facilities as designed in 1994, as master programmed, and as revised following a Program Value Analysis/Review by KPMG consultants. The table concludes with previously designed and currently programmed future building gross areas for both the Fraser Valley Health Centre and the Eastern Fraser Valley Cancer Centre.

Fraser Valley Health Centre Service Group	1994 Preliminary Design GSM	2000 Master Program GSM	2000 Post Program VA GSM
A High/Medium Serviced Facilities (Post Disaster)	21 784.1	23 483	
B Low Serviced Facilities (Post Disaster)	3 191.5	4 133	
C Low Serviced Facilities (Non-Post Disaster)	4 017.1	1 110	
D Industrial/Shop Facilities (Post Disaster	3 699.9	3 467	
E Industrial/Shop Facilities (Non-Post Disaster)	829.1	895	
F Regional/Other Facilities (Non-Post Disaster)	-	(5 566)	
Total, Component Gross Square Metres (CGSM)	33 521.7	36 088	
TOTAL FVHC BUILDING GROSS SQUARE METRES (BGSM)	**45 829.2**	**49 991**	**47 649**

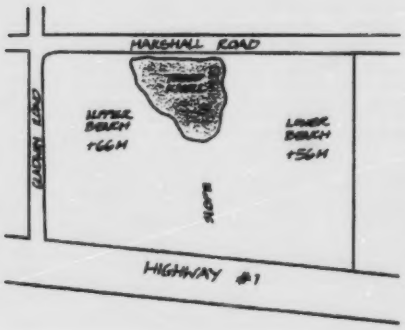
Note:

1 Changes recommended that have been included as a result of the KPMG Program VA include:

- *The Surgical Step-Down Unit at 400 CGSM has been relocated from A5 Critical Care Units to A1 General Medical/Surgical Inpatient Units in order to ensure staffing economies.*
- *The Women's and Children's Ambulatory Clinics area of 775 CGSM has been relocated from A2 Maternal Child Program to C2 Ambulatory Care Centre to allow for space sharing opportunities.*
- *The Community Mental Health Centre area of 800 CGSM has been deleted from A3 Mental Health/Psychiatry and will be retained in the community.*
- *The Laboratory Medicine component has been reduced in area by 250 CGSM to reflect a change in role with all microbiology being consolidated at Chilliwack General Hospital.*
- *The C1 Wellness Centre component has been reduced in area by 607 CGSM and will be integrated with C2 Ambulatory Care Centre for improved space and operating efficiencies.*
- *The Pre-Admission Clinic component has been reduced by 48 CGSM to reflect a slightly reduced workload.*

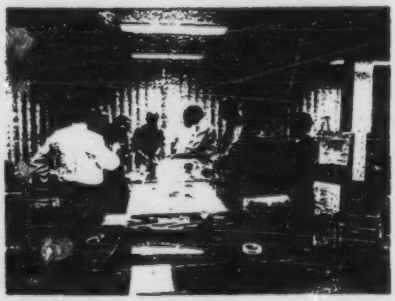
Eastern Fraser Valley Cancer Centre Service Group	1994 Preliminary Design GSM	2000 Master Program GSM
G High/Medium Serviced Facilities (Non-Post Disaster)	-	2 535
H How Serviced Facilities (Non-Post Disaster)	-	2 940
Total, Component Gross Square Metres (CGSM)	-	5 475
TOTAL EFVCC BUILDING GROSS SQUARE METRES (BGSM)	-	**6 845**

3 PHYSICAL PLAN REVIEW



The work presented in this report has concluded that the preliminary physical resource requirements outlined in the Master Program can be arranged on the subject site in a configuration, which generally meets the planning objectives of the FVHR and BCCA. The planning diagrams suggest one siting concept involving two to three storey development on the upper 'bench' on the western portion of the site consisting primarily of outpatient, ambulatory care, administration, and cancer clinic program components. The acute and support services functional components would generally be located on the lower bench or eastern portion of the site in a five storey configuration. The main entry is shown located off the upper bench with the emergency entry off the lower bench.

From a site utilization perspective and given this siting concept, the site will accommodate the ambulance station, energy centre, and the future expansion of each major functional component. It is estimated that the parking requirements for this development would consist of approximately 500 surface parking stalls and 500 stalls in structured parking.



September 14, 2000 Functional Modelling Session

The health care campus suggested by the planning diagrams support the notion of a healing environment through retention and acknowledgement of the treed knoll and by separating outpatient services from acute services. It also responds to the considerable demands for natural light into the majority of the program components and assists wayfinding through the campus. Other benefits include the separation of post disaster components from non-post disaster components for improved construction economy and the ability to fast-track smaller contract elements within the larger campus development. Alternatives to the suggested health care campus concept should be explored during the detailed functional programming stage to confirm the most appropriate planning solution for this facility on this site.

4 PROGRAM LEVEL CAPITAL COST ESTIMATE

The current estimated cost of the project, based on the adjusted Master Program dated September 2000, is as follows:

Item No.	Estimated Cost $
A. Land	0
B. Construction	125,932,000
C. Professional Fees	15,304,900
D. Furnishings & Equipment	53,198,000
E. Municipal & Connection Fees	1,576,100
F. Management & Overhead	4,909,500
G. Project Contingency (2%)	1,160,800
H. Payable Goods & Services Tax	2,404,800
I. Total Project Cost	**$204,486,100** [1]

Note:

1 The Total Project Cost estimate above is based on a total building gross area for the Fraser Valley Health Centre of 45 569 square metres. This is less than the number presented in the Master Program Space Summary earlier which implies that useable program area will have to be reduced in order to meet this estimate.

1 PROGRAM PARAMETERS

INTRODUCTION

The purpose of this section is to describe factors expected to influence future development of facilities at the Fraser Valley Health Centre/Eastern Fraser Valley Cancer Centre (FVHC/EFVCC) site. Factors are organized according to whether they involve programs and services (Functional Parameters), systems and procedures (Operational Parameters), existing physical resources (Physical Parameters), or capital and/or operating funding (Financial Parameters).

Functional and operational parameters are used primarily in the development of master program information. A hospital's intended functional content and major operating systems affecting the manner in which these functions are conducted must be fully understood before they can be sized as discrete blocks of space. RPG refers to these blocks of space as "functional components" and these represent the major building blocks that will be used to construct models of future facilities in the physical planning tasks which occur later.

Physical and financial parameters are used primarily in the physical stages of planning where options regarding retention/reuse of existing facilities, construction of new facilities, and site development options are tested. Planning alternatives must be evaluated not only in terms of their "fit" within the confines of existing and proposed structures, but also within any established capital and/or operating budgets as well.

Collectively, the project parameters assist subsequent planning initiatives by describing proposed upper limits on:

- what services will be provided
- the number of "users" to be provided services
- what opportunities or constraints are imposed by the existing physical resources, including the site (and facilities if existing)
- what opportunities/constraints are imposed by any capital or operating funding objectives

The sections which follow are organized according to the four categories of project parameters which appear in the following order:

- Functional Parameters
- Operational Parameters
- Physical Parameters
- Financial Parameters

Italicized comments appearing in the left-hand margin attempt to summarize key proposals and/or assumptions regarding the provision of services contained in the main body of the report.

FUNCTIONAL PARAMETERS

FUNCTIONAL PARAMETERS

This section of the report describes the future Fraser Valley Health Centre/Eastern Fraser Valley Cancer Centre (FVHC/EFVCC) of the Fraser Valley Health Region/BC Cancer Agency in terms of the nature and extent of inpatient, outpatient, and emergency services as well as the Hospital's/Agency's proposed roles in community outreach, education, and research. This document does not address the role of community-based services except as they may influence the hospital-based services. The presence of non-clinical services and their impact on facility planning are acknowledged, but the scope of these is understood to be driven primarily by referrals from their clinical counterparts. Clinical functions are the initial generators of activity and it is these that will have the most material influence on the nature and extent of all services to be accommodated at the site. Consequently, in this stage of the planning work, attention is focused on clinical services that are typically viewed as major generators of activity within the Centre.

FVHR VISION, MISSION AND STRATEGIC DIRECTIONS

Philosophical positions, such as those conveyed by mission and vision statements represent ideal and ultimate standards adopted by the respective Boards of the two organizations against which all performance will be assessed. They may not, however, be fully sensitive to detailed constraints and opportunities imposed by the sites, existing facilities, and current economic conditions.

The following statements were prepared by the FVHR to illustrate fundamental positions on health and the provision of care to all users of the health system.

Vision: **A region of Healthy communities of informed people living healthy lifestyles.**

Mission: **The FVHR delivers preventive and health care services responsive to the needs of our people.**

Strategic Direction #1: Residents of FVHR will have access to health care services within an appropriate period of time.

Strategic Direction #2: FVHR programs will actively engage in opportunities for prevention/health promotion.

Strategic Direction #3: Health services across the region will be provided in a seamless and coordinated fashion.

Strategic Direction #4:	FVHR will actively work with other organizations, jurisdictions and ministries to advocate for changes that promote healthy populations.
Strategic Direction #5:	Identify priority services for program development or expansion and identify funding opportunities.
Strategic Direction #6:	Develop a regional infrastructure that allows for the necessary environment to provide health services to our population.
Strategic Direction #7:	FVHR will develop meaningful reporting information for patients/families; health care managers and decision-makers and the Ministry of Health.

BCCA VISION, MISSION AND VALUES

The following statements were prepared by the BCCA to illustrate fundamental positions relative to cancer control and the provision of services to residents of British Columbia.

Vision: A world in which people no longer fear cancer.

Mission: To maintain and enhance an internationally recognized comprehensive cancer control system in British Columbia, which will:

- **Reduce the incidence of cancer**
- **Reduce the mortality of people with cancer**
- **Improve the quality of life of those living with cancer**

Values: The values of the BC Cancer Agency in achieving its mission are:

- *Knowledge*
  We value the search for and application of knowledge.
- *Integrity*
  We strive for the highest ethical standards.
- *Respect*
  We respect all those we serve with whom we work.
- *Equity*
  We believe in fairness and equitable access to our service for all British Columbians.
- *Diversity*
  We embrace the differences among people and value the perspectives and contributions of all.
- *Accountability*
  We are committed to accountability in everything we do.

- *Collaboration*
  We believe that working together with partners will have a greater impact on cancer control than would be possible alone.
- *Excellence*
  We strive for excellence in all that we do.

Provided in cooperation with its many partners, the Agency's programs and services include prevention, early detection, diagnosis and treatment, supportive care, rehabilitation, palliative care, education, research and support for community programs.

Currently services are provided to the residents of BC through four regional cancer centres (Vancouver, Surrey, Victoria and Kelowna) and a Communities Oncology Network which supports the objective of the Cancer Agency to provide all British Columbians with access to a high quality of cancer care as close to their homes as possible.

PLANNING HORIZON

Facilities programming for the project will be based on the status of conditions as estimated to the year 2015. The health centre facility will be programmed to support a total of 300 inpatient acute care beds with only 261 beds to be operationalized on building occupancy and the cancer centre to support up to 2,500 new patients annually.

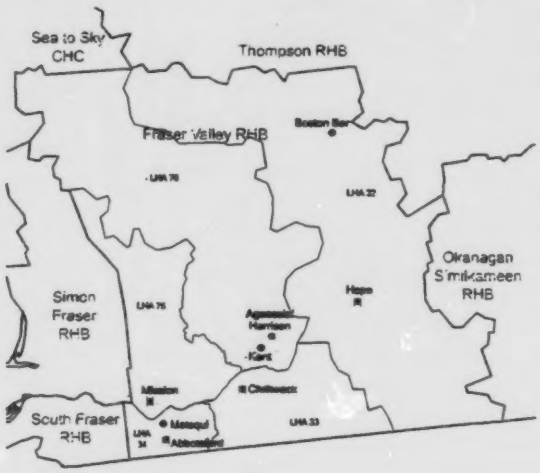
GEOGRAPHY

The Fraser Valley Health Region consists of five local health areas (LHAs); Hope LHA 32, Chilliwack LHA 33, Abbotsford LHA 34, Mission LHA 75 and Agassiz/Harrison LHA 76. The region covers a geographic area of approximately 14,000 square kilometers, stretching from Manning Park on Highway #3 in the east, the U.S. border on the south, Boston Bar on Highway #1 to the north and the Abbotsford/Aldergrove boundary to the west. The region includes the communities of Boston Bar, Hope, Aggasiz, Harrison, Chilliwack, Abbotsford and Mission.

Figure 1 below illustrates the FVHR and surrounding regions as well as the location of principal health facilities.

FIGURE 1: LOWER MAINLAND HEALTH REGIONS

The map on the right illustrates the Local Health Areas (LHA's) which constitute the Fraser Valley Health Region.



There are four acute care hospitals serving the region located in Hope, Chilliwack, Mission and Abbotsford. In total, there are 405 acute care beds and 551 long-term care beds in the region, plus an additional 926 long-term care beds provided on a contracted basis.

POPULATION HIGHLIGHTS

Master planning and programming work for the health centre portion of the project will be based on the following historical population statistics and population projections.

Historical Populations

Figure 2 below illustrates populations for British Columbia, FVHR, and LHA 34 as at the last census year, and as projected from that census year for year 2000.

FIGURE 2: HISTORICAL POPULATIONS
Source: PEOPLE 25 – BC Stats, Ministry of Finance and Corporate Relations

Geographic Area	1996	2000
British Columbia	3,882,043	4,067,179
Fraser Valley Health Region	231,345	243,175
LHA 34 Abbotsford	110,338	116,176

Numbers in Figure 2 show an increase in each area's population between 1996 and 2000.

The detailed analysis of historical demography in Appendix G indicates the following:

- LHA Abbotsford comprises almost 50% of the population of the FVHR
- FVHR has a higher percentage of persons aged 0-14 (21.7%) than BC (18.1%), as does LHA 34 (22%)

Projected Populations

Figure 3 below illustrates populations for British Columbia, FVHR and LHA 34 as at 2000, 2005, 2010 and 2015.

FIGURE 3: CURRENT AND PROJECTED POPULATIONS
Source: PEOPLE 25 – BC Stats, Ministry of Finance and Corporate Relations

	Current 2000			2005			Projected 2010			2015		
Geographic Area	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
British Columbia	2,019,236	2,047,943	4,067,179	2,166,578	2,205,630	4,372,208	2,329,185	2,380,244	4,898,030	2,493,744	2,558,818	5,052,562
Fraser Valley Health Region	121,762	121,413	243,175	133,676	134,259	267,935	147,541	148,970	296,511	162,476	164,711	327,187
LHA 34 Abbotsford	57,828	58,348	116,176	63,415	64,203	127,618	69,333	70,268	139,601	75,479	76,540	152,019

Factors of key importance to this project include expectations of significant continued growth for the FVHR and LHA 34. This growth is anticipated as a result of birth rates exceeding mortality rates and to net migration. Over the 15 years from 2000 to 2015 the FVRH is projected to increase 36.2% as compared to 25.6% for BC. LHA 34 is projected to increase by 30.9% over this same time period. FVHR is projected to have a younger population as a whole compared to the Province.

The population base served by the existing cancer centres in Vancouver and Surrey, plus the new EFVCC in Abbotsford will include the Lower Mainland and all of the North.

MAJOR CLINICAL SERVICE ROLES

FVHR planning is based on the view that acute care services will be provided by each of the Region's four acute care hospitals operating in Mission, Hope, Chilliwack and Abbotsford. All sites will be capable of providing secondary care and selected tertiary level care at selected sites, but not all services nor the same level of service will be available at all sites. The evolution of service location will require that all sites accommodate basic, "platform" services capable of providing (at least) primary level care and support for selected secondary and tertiary level care. Site selection for those services offering higher care levels will be governed by availability of personnel and physical resources, and the potential to strengthen service identity and delivery capabilities through consolidation and economic practicality.

The following subsection identifies "platform" and major specialty and subspecialty clinical service roles assumed for the FVHC/EFVCC site. *Italicized comments appearing in the left-hand margin merely highlight services or planning considerations for easy reference.*

Anesthesiology

Anesthetists at FVHC/EFVCC will administer general anaesthetics and nerve blocks in support of procedures conducted in the:

- Surgical Suite
- Maternity Unit
- Medical Imaging Department (interventional procedures)
- Eastern Fraser Valley Cancer Centre (pain and symptom management)
- Psychiatry Unit (electroconvulsive therapy)
- General Day Care Unit (endoscopies)

The day-to-day operation and maintenance of anaesthesia equipment will be performed by anesthetists supplemented by assistance from respiratory therapists, with annual preventive maintenance provided by Biomedical Engineering.

Post-procedure care will include occasional follow-up observation in the PACU, ICU, Surgical Step-Down Unit and the Maternity Unit.

Outpatient services will focus on pre-admission/operative assessments and acute pain management. Anaesthetists will also participate in the delivery of chronic pain management in ambulatory care.

Emergency Medicine

Emergency Medicine services will continue to be offered at all hospital sites, but an increase in workload will occur at the FVHC/EFVCC site as a result of its specializations, particularly from Mission and Hope.

The FVHC/EFVCC acute care site will continue to provide emergency care for residents of the Abbotsford community and the region. The site will be capable of responding to unscheduled patients presenting with a wide range of conditions and illnesses with a continued increase in activity. Walk-in (i.e., all non-ambulance arrivals) traffic, however, is expected to become more selective in their choice of treatment centre as the major clinical foci of each site becomes more widely recognized. For instance, it is anticipated that the majority of pediatric, obstetric/gynecological and oncological emergencies will be handled at the FVHC/EFVCC site, which will necessitate separate handling areas for pediatric patients.

Psychiatric patients will continue to be received in the Emergency Department. The primary objective in treating this group of patients will be rapid evaluation by a psychiatrist and/or other members of a psychiatric emergency response team, followed by either admission to the Psychiatric Inpatient Unit or referral to the appropriate hospital or community-based service(s). Secured holding facilities will be provided for those

requiring short-term holding and assessment.

A Quick Response Program (QRP) will also function from Emergency in order to provide immediate assessment of elderly clients in order to minimize unnecessary admissions.

Emergency will play a role in maximizing appropriate use of inpatient resources. Careful screening of patients in the Emergency Department will ensure that only those in need of inpatient care will be admitted.

Scheduled outpatient care will generally not be accommodated in the Emergency Department since these patients will be more appropriately served in an ambulatory care setting.

A special decontamination area will be provided in support of regional disaster planning.

A clinical decision unit will also be provided for short-term holding, observation and assessment of patients to minimize unnecessary admissions.

The site will accommodate a helipad.

Hospital emergency personnel will provide more field (radio/telephone) support to paramedical personnel at accident sites in the future. Patients will be transported to the site for treatment. As a regional centre, the FVHC/EFVCC site will be served by a helipad.

Family Medicine

Family Practitioners will continue to have a significant role and presence at all acute care sites with admitting privileges to all services.

Family Medicine will continue to offer family-oriented care at all hospital sites. The availability of specialists in the Fraser Valley is expected to remain limited and this trend will continue to promote daily medical inpatient care by family practitioners with referrals to specialists as necessary. It will also promote the involvement of family practitioners in specialty services commensurate with the interests and training of individual practitioners. Specialty services identified as potential for more substantial involvement include low risk obstetrics, palliative care, rehabilitation, and geriatric assessment services.

Outpatient Family Medicine will continue to be in private physicians' offices off-site.

Medicine

Internal Medicine will be represented at all sites.

The FVHR will continue to develop medical subspecialty expertise to meet the site's selected clinical foci.

The Medicine subspecialty division, having a presence at more than one site, is Internal Medicine. Non-invasive cardio-neuro diagnostics, a pulmonary function lab and general endoscopy services will be available at multiple sites, whereas, invasive cardiology with a Cardiac Catheterization Lab will only be provided at the FVHC/FEVCC site. Critical Care Medicine in the form of a coronary care unit and medical intensive care unit

will be available at the FVHC/EFVCC, CGH and MMH sites; however, patient populations at each may be different owing to each site's unique medical and surgical services.

Dermatology, Endocrinology, Nephrology, Neurology, Hematology/Oncology, and Rheumatology will be concentrated on the FVHC/EFVCC site.

Other medical subspecialties based at the FVHC/EFVCC site will include Dermatology, Endocrinology, Nephrology, Neurology, Rheumatology and Hematology/Oncology.

Palliative Care will also be developed within the Medicine Department.

Mental Health/Psychiatry

A full range of Mental Health/Psychiatry services will continue to be provided at the FVHC/EFVCC and CGH sites.

The FVHR will continue to provide psychiatric services to respond to the acute mental health needs of its residents. A full range of services will be available at both the FVHC/EFVCC and CGH sites (which are the only designated hospitals for the region under the Mental Health Act) and will generally be organized under the following categories:

- Hospital Services
- MH Community Services
- Mental Health Centres

The FVHR is developing a regional integrated Mental Health Program that will encompass all mental health services within its mandate, including community, inpatient and outpatient services across all age groups. The program will incorporate strong linkages with other government and community providers including the Ministry for Children and Families (MCF).

Currently, psychiatric care units on the MSA site include a General Psychiatry Inpatient Unit, Psychiatric Outpatient Services and a Psychiatric Day Program. These units/ programs provide services to a mix of ages (age 10 to the very elderly) and a range of diagnoses.

In the future, following the principles of a program management model of care, the FVHC/EFVCC site will act as the focus for the delivery of an integrated, multidisciplinary Mental Health Program for the Region, in collaboration with other community-based services. Subject to further detailed discussions, example programs/ services will include:

<u>Acute Care Services</u>

- Child & Adolescent Care
- Adult Care (including intensive care)
- Psychogeriatric Care
- After Hours Emergency Care
- ECT

Community Services

- ASTAT - Adult Short Term Assessment and Treatment
- ACS - Adult Community Support Services
- ACO - Adult Community Outreach
- CRP - Community Residential Program
- Psychogeriatric Services
- Psychiatric Outpatient Services

Support/Rehabilitation Services

- Rehabilitation (OT, PT, RT, Community Living Support, etc.)
- Social Work
- Family: Patient Services (e.g., library, resource centre, etc.)
- Volunteer Services
- Psychology
- Administration

Integrated hospital-based mental health/ psychiatry services will be co-located with a community mental health centre on the FVHC/EFVCC site.

This consolidation suggests a co-location of current and expanded hospital-based inpatient, outpatient and day programs together with a community-based mental health centre.

Admission under any of these service areas will be accepted from professional referrals, and intra-hospital transfers and all will be subject to departmental admission criteria. A large number of admissions will occur through each site's Emergency Department. An emergency assessment service will be continued in anticipation of this workload, which will ensure assessment soon after arrival in the Emergency Department followed, by either referral to the appropriate community-based agency or hospital admission.

Mental health professionals at both sites will provide psychiatric consultations in support of all other programs related to psychiatric service delivery operated outside of the Department of Psychiatry. Objectives of these consultation services will be to develop broadly based understandings of mental health issues and basic treatment skills among many health care providers. They will also provide expert treatment services to patients who may not be formally admitted under a psychiatric program, but still require intervention for mental illness.

In-hospital pediatric psychiatry will generally be accommodated within the pediatric and adolescent care environments when possible. Problems experienced by this population are typically social or behavioural in nature and best treated in the community. Development of a hospital-based pediatric or adolescent psychiatry specialty is, therefore, not anticipated. The most severe forms of psychoses in children and adolescents will be

treated within special program areas in the adult psychiatric services or transferred to BC's Children's Hospital.

In-hospital geriatric psychiatry generally will be treated as part of a comprehensive geriatric assessment program. This will involve psychiatric assessments during inpatient phases of care and post-discharge intervention for acute episodes through day programs. Development of a hospital-based geriatric psychiatry specialty is not anticipated.

Hospital-based mental health professionals will work closely with other Region mental health services in coordinating the activities of community nurses, social workers, and psychologists. This coordination will be based on a philosophy of maintaining most outpatient psychiatry in the community and using hospital-based day programs primarily as transition (from hospital) services. Objectives of coordinating on-site and off-site services will be to operationally consolidate different and geographically separate elements of mental health activities and to promote community-based treatment of less severe forms of mental illness.

Psychological testing in support of psychiatric services will be conducted at the FVHC/EFVCC site.

Forensic psychiatry will continue to be provided through the Justice Department with the centralized forensic unit located in Port Coquitlam.

Obstetrics & Gynecology

Development of obstetrical and gynecological services for the FVHR will continue to be provided on all acute care sites, and the FVHC/EFVCC site will continue to serve as the Region's high risk maternal centre.

The FVHR will continue to promote development of obstetrical and gynecological services on all of its acute care sites, although only the FVHC/EFVCC site will (continue to) provide Level II birthing and neonatal services and, as such, will continue to serve as the regional centre for high risk obstetrics. Obstetrical services will be developed in concert with Pediatric services consistent with the regional Maternal Child Program model of care.

Obstetrical services will provide perinatal care through outpatient, inpatient, and outreach services. Inpatient care delivery will be provided in a combined unit including single room maternity care (LDRP's), LDR's and C-section/delivery room facilities, which will be allied with normal and special, care nurseries. Obstetrics will function as a Level II unit and it will be allied with a Level II neonatal intensive care unit (NICU).

FVHC/EFVCC will be capable of responding to high-risk pregnancies with the exception of those at a gestational age of less than 32 weeks. These cases will be referred to BC Women's Hospital or other centres.

Outpatient obstetrical services will evolve around a fetal/pregnancy assessment service which will provide genetic counselling and screening, prenatal classes, fetal monitoring

(including obstetrical ultrasound), training on home blood pressure monitoring, and a comprehensive breast care program as a follow-up to the community-based screening program.

Prenatal classes will be a coordinated service involving hospital and community-based staff and others. Emphasis will be placed on maximizing the community's role in obstetrical care. Routinely scheduled obstetrical outpatient consultative clinics will also be anticipated.

Counselling for pregnant diabetics will be provided through the Department of Medicine's metabolic services under the direction of a specialist in maternal-fetal medicine.

The FVHR midwifery program is anticipated to continue and expand in the future. This program will continue to respond to the needs of low risk, uncomplicated obstetrics. Caregivers attached to this program will continue to have admitting privileges at the FVHC/EFVCC site.

Obstetrical services will participate in the emergency transportation of mothers in labour and of neonates. Dispatch of specially trained nurses and respiratory therapists will be coordinated by hospital-based obstetricians, pediatricians and neonatologists who will be available to provide "hot line" consultations during transportation.

Gynecological services will develop around the concept of a Women's Health Centre. This Centre will offer a comprehensive array of outpatient, multidisciplinary services to respond to the health needs of women including:

- counselling and treatment for menopause and PMS
- colposcopy services and minor procedures including IVF, ovulation induction, therapeutic donor insemination, D & C, and hysteroscopy
- other services added as to needs assessment
- contraception clinic

It is anticipated that planned parenthood counselling services will be provided through community programming.

In the Women's Health Centre, gynecological outpatient procedures will be limited to those requiring sedation and/or local anaesthetics only; procedures requiring general anaesthetics will continue to be performed in the Surgical Suite.

Oncology

The BC Cancer Agency, together with the FVHR, will initiate a new program in Oncology on the FVHC/EFVCC site. The new EFVCC will be the third regional cancer center serving the population between Vancouver to Hope and the northern

regions of the province.

As with other regional cancer centres in the province, the oncology program at FVHC/EFVCC will consist of a network of services including:

- Regional Cancer Centre operated by the BCCA will provide:
  - multidisciplinary patient assessment and review
  - radiation therapy (external beam)
  - chemotherapy (systemic care)
  - patient and family counselling, and other supportive care
  - public, patient and professional education
  - applied research
- At hospitals across the region, patients will receive care from local physicians with advice and input from cancer specialists;
- Hospital-based inpatient oncology beds (5 beds in 2005, 10 beds in 2015) will be provided for medical inpatients for treatment (radiotherapy and chemotherapy) who are unable to manage on an ambulatory basis; investigative admissions will occur in other appropriate services; palliative care will occur in the palliative care unit; surgical oncology patients will be placed on surgical units, pediatric oncology patients on pediatric units – surgical and pediatric oncology beds are excluded from the above totals; and
- Surgical intervention will continue to be provided in all hospitals in the region that currently have surgical programs; consultations from FVCC specialists will be available to surgeons in the region.

The EFVCC will not have any specialty cancer treatment services such as HDR (high dosage radiotherapy). EFVCC will share the resources within the Wellness Centre for many of the Population Based Activities.

EFVCC will operate and staff a special pharmacy to dispense anti-neoplastic drugs and prepare IV bags for chemotherapy patients. The Centre's IT and communications systems will be linked to those of the hospital and be integrated into the Provincial Cancer Network. BCCA also retains its own Human Resources and Finance personnel managed through the Agency's Provincial Systems. The EFVCC will include facilities for the Cancer Foundation and the Centre's volunteers.

The Centre will be operated under the auspices of the British Columbia Cancer Agency (BCCA); the Administrator will report to the CEO of the BCCA. The Centre will operate independent of the Hospital, but issues of concern to both the Centre and the Hospital will be dealt with through joint committees of the two institutions.

The following major common operating policies for the Centre and Hospital are assumed for planning:

- The two institutions will be administratively and fiscally separate and distinct, but their respective operations will be closely related in areas of shared/purchased service.
- As far as possible, the Centre will not duplicate services available in the hospital and will rely on those services, which can be provided or purchased from the Hospital.
- Written contracts will be drawn up for each service purchased by the Centre from the Hospital.
- The Hospital will be responsible for a full inpatient program of service for cancer patients, excluding radiotherapy treatment, and the Centre will be responsible for a full outpatient program of service for cancer patients.
- The Hospital will grant full medical privileges to the Centre's physicians.
- A liaison group (Committee) comprising representatives of the Centre and Hospital will be constituted early in the Centre's development to oversee the coordinated integration of the Centre's and the Hospital's related operations and planning activities.

More specifically, there are certain programs and services which will be provided to the Centre by the Hospital or which will be purchased from the community. These are as follows:

FVHC will contract to provide clinical services to the Centre in the areas of:

- diagnostic services (diagnostic imaging, laboratory and nuclear medicine)
- inpatient beds
- operating rooms (surgical procedures and anaesthetists)
- emergency services
- medical day care
- surgical day care
- respiratory services (including RT, PF, etc.)

- rehabilitation (physiotherapy, occupational therapy, speech pathology, recreational services)

FVHC will also contract to provide support services to the Centre in the areas of:

- food services (including catering, vending and cafeteria services)
- materiel management * (including CPD, standard stock items, escort)
- environmental services (housekeeping, laundry, plant maintenance, security services)
- pastoral care
- biomedical engineering

There will be space available in the Centre for Hospital - provided services, including:

- dietary services (vending)
- housekeeping and maintenance

Surgical oncology will be conducted at all acute care sites in the region, depending on the surgical subspecialty involved and the extent of support received from oncologists and other support groups.

Pediatrics

Pediatric services for the FVHR will continue to be provided at the FVHC/EFVCC, CGH and MMH sites, but due to its size, FVHC/EFVCC will serve as a regional centre.

The FVHR will continue to provide specialized services for the provision of care to the children of the region at the CGH, MMH and FVHC/EFVCC sites, but will likely concentrate heaviest at the CGH and FVHC/EFVCC sites due to an acute shortage of pediatricians.

Consolidated inpatient pediatric services will be comprised of neonatal care (including a Level II NICU providing intermediate and convalescent care), general medical/surgical pediatric care, and adolescent care (for children aged 12 - 19). Pediatric intensive care is to be supported through a special critical care environment in Pediatrics, prior to transfer to Children's Hospital. Services will be sensitive to age differences and will attempt to segregate inpatients based on chronological or, if more appropriate, mental age, including infants, toddlers, youths and adolescents. "Care-by-parent" will be strongly promoted encouraging parents to take an active role in the in-hospital and post-discharge phases of care.

General pediatric surgery will continue to be available at the FVHC/EFVCC site, but children requiring specialist surgery will continue to be referred to Vancouver or other centres for the in-hospital portion of their care. Emergency evacuation of patients will continue to be supported by the Infant Transport Team from BCCH.

Pediatric burn care will be provided on the Pediatric Unit if the child's care needs can adequately and appropriately be met outside the B.C. Children's Hospital Burn Unit environment.

Pediatric psychiatry tends to involve mostly older children (youth and adolescents) with emotional, non-life-threatening problems. If hospitalization is considered necessary, these cases will be admitted under adolescent services. More severe problems will be referred to adult psychiatric services.

Care of terminally ill children will be accommodated under pediatric services with special palliative care skills being brought in as needed.

Outpatient pediatric care will evolve around the concept of a consolidated Child Health Centre concept. Specialized services will be accommodated to provide primary and follow-up care and will, in some cases, provide alternatives to in-hospital care. Services anticipated for development on the FVHC/EFVCC site will include:

- Allergy and Immunology (including Asthma)
- Suspected Child Abuse/Neglect
- Cystic Fibrosis
- Developmental Assessment
- Eating Disorders
- Failure to Thrive
- Dietetic Counselling
- Surgical Follow-Up
- Visiting Pediatrician Consultations (including Cardiology, Diabetes, Genetics, Neurology, and Rheumatology)
- Home IV and Monitoring

The pediatric adolescent service will support 12-19 year old patients for medical, surgical and psychiatric services.

Ongoing oncology and ophthalmology pediatric outpatient care will also be provided at the FVHC/EFVCC site.

Outpatient pediatric rehabilitation medicine will continue to be provided by the Child Development Centre or Sunny Hill Health Centre for Children. Inpatient pediatric rehabilitation will be consolidated at CGH, and respite care is being considered as a community-based service.

Pediatric services as a whole will be developed in concert with Obstetrical services consistent with a program model of care known as a Maternal Child Program.

Surgery

The FVHC/EFVCC Surgical Program will continue to consist of General Surgery, Gynecology, Ophthalmology, Orthopedics, Otolaryngology, Plastics, Dentistry, Urology, and new programs in Vascular Surgery and Surgical Oncology will be added as will Thoracic Surgery over time.

The FVHR will continue to provide a full range of Surgical services to meet its community service roles on the FVHC/EFVCC, CGH and MMH sites. The FVHR will also continue to develop subspecialty expertise to meet each site's selected foci. Surgical procedures will continue to be performed on both an inpatient and outpatient basis; however, all sites will promote trends towards more outpatient surgery.

Subspecialty surgical divisions having a presence at more that one site include General Surgery, Gynecology, Ophthalmology, Orthopedics, Otolaryngology, Plastic Surgery and Urology.

Surgical subspecialties concentrated only at the FVHC/EFVCC site will include Vascular Surgery, Surgical Oncology and perhaps Thoracic Surgery.

Patients requiring close and constant observation in a high nurse to patient ratio environment will be accommodated in the expanded intensive care unit supporting patients requiring ventilator assistance, hemodynamic monitoring, infusion pumps, dialysis, etc.

Some post-surgical patients who may require monitoring and close observation, but do not require full ICU care (e.g., vascular patients, some orthopedic trauma and some elderly patients) will be accommodated in a surgical step down unit located in close proximity to the ICU/CCU and other telemetered beds.

Nursing & Patient Care Services

Patient care in the future will continue to focus on the individual needs of patients or residents and their families. Treatment programs will promote the patient's involvement in their own care; patients will play an active role in choosing treatment options and they will be encouraged to view themselves as being largely responsible for the outcome of the treatment they have chosen. Participation by the family in providing in-hospital and post-discharge care will also be promoted.

Planning will assume decentralization of care workers to care program sites to the extent practical.

To the greatest extent possible and without diminishing the focus described above, patient care will be organized according to a program structure. Under this model, representatives from different disciplines will combine their skills into a coordinated program designed to address the therapeutic and preventive needs of discrete patient populations. This will foster the development of specialization among nursing and allied health workers, but it will not preclude the generalist's role. Since program organization implies a physical consolidation of resources, planning will anticipate a trend towards decentralization of care workers in close proximity to the site of patient care as opposed to centralization in a "host" department.

The program model of health care will not be limited to programs conducted within acute care facilities only. It will be equally relevant to inpatient and outpatient services, and it will also provide support beyond a facility's walls either in the form of

follow-up care by staff based at an acute care site or through liaison with community-based workers.

Model of Care Beliefs/Values

The following are selected model of care beliefs and values of the FVHR Health Program Directors, which could have a facility planning impact:

- patient/resident/client centred
- family/significant other involvement
- care delivered in most appropriate setting by care teams
- care delivered within a program management structure
- care delivered in holistic manner

KEY CLINICAL SUPPORT SERVICE ROLES

The FVHR acute care hospitals will accommodate an array of physician-staffed services, which will be available to support the clinical service roles described above. The same clinical support disciplines will be maintained at all four hospitals, however, specialized services will be developed in response to the unique medical and surgical services based at each site.

Laboratory Medicine

A Regional Laboratory service will be provided from the FVHC/EFVCC site with rapid response laboratories serving the other three hospital sites. Services at the CGH, MMH and FCH sites will include a urgent, Category I clinical laboratory, including chemistry, hematology, blood bank, and immunology, whereas, microbiology services and anatomic pathology, including surgical pathology, cytology, histology will only be provided at FVHC/EFVCC.

The success of this consolidation will be ensured by the seamless LIMS (Laboratory Information Management System) currently in use.

Regional Laboratory services supporting the full range of the FVHR's health care programs and services will be provided in an integrated, competitive and customer-friendly fashion.

Within this context, the FVHC/EFVCC site will function as the regional laboratory for the FVHR with only Rapid Response Laboratories provided at the other three hospital sites. Selected volumes of testing currently being referred to the Provincial Laboratory or other labs (incl. Royal Columbian Hospital) will be repatriated to the FVHC/EFVCC lab and all processing of lab tests, including most oncology tests, on the FVHC/EFVCC site will be undertaken by the FVHC/EFVCC Laboratory Medicine Department. Some subspecialty testing for EFVCC will be sent off-site. It is envisioned that existing hospital-based specialties will be distributed as follows:

FVHC/EFVCC Site

Clinical Pathology includes:

Chemistry	Immunology
Hematology	Microbiology
Blood Bank	

Anatomical Pathology includes:

Surgical Pathology	Histology
Cytology	Autopsy

Other Hospital Sites

Rapid Response includes:

Chemistry	Immunology
Hematology	Blood Bank

Outpatient and pre-admit specimen collection will be provided as part of those services, but administered by Laboratory Medicine.

Hospital-based laboratory services will continue to benefit from new technology which is creating smaller, faster machines and

robotics capable of performing more functions with fewer staff. In the longer term, it is assumed these features will promote decentralization of specimen processing closer to the sites of specimen procurement (point-of-care service). This tendency, however, will be governed by considerations for quality control and cost effectiveness. Specimen processing in the critical care areas, the Emergency Department, and in the vicinity of ambulatory clinics will not be anticipated at this time. Quick sections will continue to be provided at all sites in Surgical Suites.

FVHC/EFVCC Infection Control will be administered by Microbiology.

Full morgue and autopsy facilities will be maintained at CGH as well as FVHC/EFVCC.

Full morgue and autopsy facilities will be maintained at CGH but not at Mission or Hope. The FVHC/EFVCC facility will continue to perform forensic autopsies, which represent 60% of the workload.

Medical Imaging

Medical Imaging services will continue to be provided at all acute care sites, although the FVHC/EFVCC site will be the only site to offer echocardiography, magnetic resonance imaging (MRI) and nuclear medicine services. As a regional centre, it will also provide basic radiography, ultrasonography, computed tomography (CT) as well as angiography and interventional vascular studies.

Radiology services in the FVHR will continue to be provided at all acute care sites with less complex modalities also being offered through privately operated facilities (Valley Medical Imaging – VMI). Diagnostic and interventional procedures will continue to become more reliant on cross-sectional modalities, such as computed tomography (CT), and magnetic resonance imaging (MRI). Since these tend to be more costly technology, their development outside of an acute care hospital is not anticipated.

Planning assumes that general radiography, ultrasound, mammography and CT will be developed at CGH. At Mission, there will be no mammography or CT; and at Hope, there will only be general radiography. Development of MRI, nuclear medicine, echocardiography services, however, will be confined to the FVHC/EFVCC site.

Teleradiography services will be provided at all sites eventually

Selected workload will be transferred from CGH (angiography) and from VMI (fluoroscopy). Mammography screening currently off-site will be provided on-site (SMBP preference) but not in Medical Imaging (e.g., in a "Wellness Centre").

Cancer workload may require expansion of the CT program; expanded vascular program will require expansion of ultrasound and echocardiography.

The FVHC/EFVCC acute care site will be the only site to provide a full range of diagnostic and therapeutic nuclear medicine services.

Routine in-vitro procedures will also be performed at all sites but in-vitro radioimmunoassay procedures will only be provided by the FVHC/EFVCC Department of Nuclear Medicine.

A digital (filmless) medical imaging system utilizing a Picture Archiving Communication System (PACS) will be developed in the new facility. Future needs for a darkroom, a dry laser processor and for film storage will not be entirely eliminated, but processed film libraries will be substantially reduced over time, although planned for at this time.

Imaging outside of the Medical Imaging component will include the provision of fixed equipment in the Surgical Suite (urology O.R.) and possibly in the Emergency Trauma room, with mobile imaging elsewhere (i.e., medical day care).

It is assumed that pre- and post-procedure patient care/observation will continue to be provided in-component for all CT and angiography procedures.

Pharmacy

A Regional Pharmacy Service will promote and support safe drug therapy and will assume responsibility for achieving optimum drug treatment outcomes for patients and residents.

Within this regional context, pharmacy services will focus on enhancing care activities and expanding hospital and community-based clinical programs. The computerized drug distribution service will operate from the basis of a regional formulary. The Pharmacy Service will work in close liaison with BCCA in providing all pharmaceutical support to oncology inpatients, while the BCCA-managed pharmacy in the EFVCC will serve the needs of all cancer outpatients and will prepare all antineoplastics (oval and IV) for both inpatients, outpatients and some community patients.

It is assumed that selected workload will be transferred to FVHC/EFVCC from other centres including Central Intravenous Additive Program (CIVA) from CGH, the centralization of all re-packing, currently decentralized, and centralized purchasing.

Increased automation, which will facilitate the unit dose system, and expansion of CIVA services (e.g., to pediatrics and NICU) is also planned. Options for the provision of a retail pharmacy in conjunction with outpatient pharmacy satellite is also under consideration.

EDUCATION SERVICE ROLES

The FVHC/EFVCC will respond to the varied educational needs of residents, students and all health care workers. The FVHR works in partnership with physicians and medical training programs to facilitate ongoing learning through grand rounds, library resources, residency programs, and other learning opportunities. Clinical education for caregivers and health-related professionals will be coordinated primarily through Patient Care Services whereas non-clinical and other education needs, related to the overall functioning of the facility, will be coordinated primarily through Education Services.

Health care professionals are committed to maintaining a level of competence to meet the challenges of continual health care advancement and to provide quality client-centred care. Decentralized educators within Patient Care Services, in cooperation with the staff and management, ensure the clinical educational needs are met through orientation, skill development, skill certification, and ongoing continuing education.

Educational practicums are also coordinated for patient care students to allow the essential practical experience required to become competent skilled professionals.

All health care professionals have a responsibility in the provision of client education to focus on the needs as identified by the client and their families. This obligation will be supported by a wide range of programs and services accessible within the FVHR.

Educational functions will be supported by ancillary services in the preparation of course content and materials, advertising course offerings, coordinating registration and course locations, and evaluation courses. Support services will include:

- health sciences library
- audio-visual equipment loan, repair, and maintenance
- centralized room booking

Opportunities to consolidate educational services within the Region will be investigated, however, planning assumes that each of the functions described above will be present at all acute care sites.

RESEARCH SERVICE ROLES

The health-related professions provide a wealth of opportunity for clinical research. Strong beliefs in the advancement of knowledge, aspirations to continually improve care practices, outcomes and overall health standards, and ready access to patients and comprehensive data bases promote support for the following types of research projects:

- epidemioloigical/statistical studies analyzing the incidence of health problems and patient population characteristics

- program/outcome evaluation
- clinical trials testing new procedures or innovative programs

The Region's four acute care sites will continue to support research of the types described above. Protocols developed and conducted by staff will be accommodated on-site as will collaborative, multi-centre studies. Coordinating centres for the latter will typically not be based at any acute care site. It is envisioned that hospital-based clinical research will generally be accommodated within the clinical service area normally provided in support of patient care. Additional dedicated research space is generally not anticipated.

A role in applied basic or wet bench research is also not anticipated.

SCOPE OF CLINICAL SERVICES

Ambulatory & Day Care Services

The description below outlines the scope of ambulatory care activity envisioned at the FVHC/EFVCC site. For more detail on this subject, please refer to Appendix E - Ambulatory Care Services Profile.

The evolution of ambulatory care at the FVHC/EFVCC site will generally follow principles of:

- providing an environment that insures patient safety superior to that achievable in a private practice office or community-based location
- providing special resources (facilities, equipment/supplies, or staff) not realistically available in private practice offices or in community health services
- providing direct patient care support to inpatient care programs at either hospital site
- providing services more economically than is achievable in a community-based location

The FVHR will greatly expand its role in ambulatory care by offering a comprehensive array of outpatient, community and social services corresponding to care programs and to the specific clinical foci of each acute care site as described below:

- <u>Wellness Centre</u>

  The FVHR will initiate a multidisciplinary, integrated Wellness Centre that includes, among other services, a Risk Reduction Program (RRP) for the assessment and treatment of individuals who are at risk of developing or currently have clinical manifestations of cardiovascular disease, or other chronic disorders such as pulmonary

and metabolic disorders, cancers, arthritis, and those at risk for osteoporosis, and who would benefit from behaviour alteration. The EFVCC may participate in this Centre through a range of programs, including Quality of Life Program, Patient/Family Counselling, Nutrition Counselling, Complimentary Therapies, Hereditary Program, Community-Based Epidemiology, Education on Prevention and other education programs.

This program will also facilitate the coordination of all health promotion/disease prevention programs offered by the FVHR and will include existing programs offered by the Region, such as the Stroke Prevention Program which has an education and research component, but which currently lacks the exercise component.

This program will conduct research in preventive medicine utilizing the risk reduction model, integrating this research with community programs. It will also include a financially self-sustaining employee wellness program that will serve as a model for other employers in the Region and the Province.

In order to provide RRP services to both outpatients and inpatients, the program will be physically located at the FVHC/EFVCC site.

- Surgical Day Care/Same Day Admit

The FVHC/EFVCC will continue to provide surgical services to outpatients undergoing selected surgical procedures and to administer a same day of surgery admission program. Surgical Day Care will apply to procedures requiring general and selected local anesthetics. In order to provide for surgical day patient preparation and pre-operative and post-operative holding, it is estimated that the total scope of on-site activity will require 24-26 day bed or recliner chair positions at the FVHC/EFVCC site accommodating 9,100 cases per year. In addition, it is estimated the Same Day Admit program will require access to 16-20 chairs/recliner chair positions for pre-op holding.

The projected scope of outpatient surgery is exclusive of endoscopic procedures and other minor surgical procedures as these are assumed to evolve as part of a medical day care program described below.

- General Day Care

The General Day Care activities which currently occur at the hospital will be expanded to provide services to

ambulatory patients undergoing medical or selected minor surgical diagnostic or treatment procedures and requiring the use of a day bed or recliner chair before, during or after such procedures, but not requiring use of an operating room in the Surgical Suite or general anesthetic. Cancer outpatient requirements (e.g., insertion of lines, bronchoscopies) will also be served here. Examples of procedures which will utilize the resources of this program include:

- transfusions and IV therapy (antibiotic and drug)
- endoscopies (including bronchoscopies, gastroscopies, sigmoidoscopies, colonoscopies)
- cystoscopies
- needle biopsies
- endocrine studies, etc.
- anesthetic blocks
- ERCPs
- ophthalmological procedures

The scope of this program is estimated as requiring 6-10 day bed or recliner chair positions at the FVHC/EFVCC site.

Minor surgical procedures will not require general anesthetics, but may involve local anesthetics or sedation and will include such procedures as biopsies, vasectomies, excision of tumours, repair of lacerations or lesions, etc.

- Psychiatric Outpatient/Day Hospital Service

  The FVHR will further develop its psychiatric outpatient/day hospital service in order to promote better continuity of care between in-hospital programs and community or home care programs at the FVHC/EFVCC and CGH sites. In the future, it is envisioned that psychiatric services at both acute care sites will continue to be staffed by community-based psychiatrists. These psychiatrists will spend a considerable portion of their time in ambulatory-related activities.

  Outpatient psychiatric services will include:

  - psychotherapy service
  - special problem-oriented clinics (e.g., affective disorders, sexual dysfunction, etc.)
  - geriatric assessment and outpatient service
  - eating disorders program

  In addition to these clinic forms of service, the Department of Psychiatry will also provide a psychiatric

emergency assessment service for Emergency Department walk-in patients. A psychiatric consultation/liaison service to all other clinical departments of the acute care hospitals will also be provided.

The scope of this program is estimated to include ___ annual outpatient visits and ___ day hospital places at FVHC/EFVCC.

- General Ambulatory Clinics/Programs

Planning assumes the development of prototypical and flexible ambulatory care facilities at the FVHC/EFVCC site. Consultative, examination and procedure rooms will be capable of accommodating a variety of disciplines without mitigating the potential to develop dedicated space for key programs and services. Those programs/services which will be accommodated in flexible, multi-use facilities include:

- selected divisions of Medicine
- selected divisions of Surgery
- Pediatrics (see Maternal Child Program)
- Psychiatry (see Mental Health/Psychiatry Program)
- Psychology (see MH/Psych Program)
- home TPN
- Obstetrics & Gynecology (see Maternal Child Program)

In addition to those programs outlined above, the following programs/services will be configured in dedicated ambulatory care accommodations at the hospital site unless otherwise noted:

- cardiac diagnostic services (see Cardiopulmonary Neurodiagnostic Services)
- respirology services, including pulmonary function lab (see Cardiopulmonary/ Neurodiagnostic Services)
- G.I. investigation/endoscopy services (see General Day Care)
- nephrology services including hemodialysis, C.A.P.D., I.P.D. (see Renal Dialysis Unit)
- neurologic diagnostic services (see Cardiopulmonary Neurodiagnostic Services)
- metabolic and diabetes education (see Wellness Centre)
- orthopedic services (cast room)
- obstetric/gynecology services (women's health) (see Maternal Child Program)

- anaesthetic services (Pre-Admission Clinic) (see Health Information Management)
- nutritional counselling (see Wellness Centre)
- enterostomal therapy

- Multi-Cultural Services

  Planning assumes the enhancement of a culturally sensitive focus at all sites, which will impact on food services, family services and spiritual services planning and improved language/interpretation services. The complete range of services to be provided will be developed further during the facility programming phase of the project.

- Rehabilitation Services

  Some outpatient Rehabilitation Services (including PT/OT/ Speech) will continue to be provided to a variety of patients in recovery from medical or surgical operations/trauma (e.g., acute surgical orthopedics, neurological, cancer patients and frail elderly). Assumptions supporting the provision of rehab services at FVHC/EFVCC include the continued provision of the following programs:

  - Amputations
  - M.S.
  - Parkinsons
  - Strokes
  - Arthritis

- Other Ambulatory Diagnostic and Treatment Services

  The following diagnostic and treatment or clinical support services also accommodate ambulatory patients (inpatients or outpatients) at selected hospital sites:

  - Social Work
  - Medical Imaging (including General Radiography, Ultrasonography, CT, MRI, Nuclear Medicine)
  - Laboratory Medicine
  - Pharmacy

Emergency Services

The following figures illustrate the means of estimating future emergency workloads for the FVHC/EFVCC site.

Historical statistics for all four emergency departments, appearing in Figure 4 below, consistently show more than 70% of all emergency visits being accommodated by the MSAGH and CGH sites, with the MMH and FC sites accounting for less than 30% of the total visits.

FIGURE 4: HISTORICAL EMERGENCY WORKLOADS BY HOSPITAL SITE

	Emergency Visits					
	1997/98		1998/99		1999/00	
Hospital Site	#	%	#	%	#	%
MSA General Hospital	42,222	40.8	43,641	39.1	41,780	40.0
Chilliwack General Hospital	34,680	33.4	35,395	31.7	34,375	32.9
Mission Memorial Hospital	21,103	20.3	25,854	23.2	21,852	21.0
Fraser Canyon Hospital	5,705	5.5	6,602	6.0	6,329	6.1
Totals	103,710	100.0	111,492	100.0	104,336	100.0

Populations for LHA 34 Abbotsford and for the FVHR during the same two periods appearing in Figure 4 and the population projected to the planning horizon are illustrated in Figure 5 below.

FIGURE 5: HISTORICAL POPULATIONS AND EMERGENCY SERVICES UTILIZATION FOR LHA 34 AND THE FVHR

	1998/99		1999/00		2015/16		
Population Base	Population	Emergency Utilization/1,000 Population	Population	Emergency Utilization/1,000 Population	Population	Emergency Utilization/1,000 Population	Projected Emergency Visits
LHA 34	114,859	970.7	116,176	898.6	152,019	895.0	136,057
FVHR (incl. LHA 34)	240,144	464.3	243,175	429.1	327,187	425.0	139,054
Assuming a self-sufficiency factor of 80%, the number of total Regional annual visits used for planning purposes:							**147,000**

The projection of emergency visits reflects the following assumption:

- Development of Figure 5 assumed that the reduction in utilization rates will bottom-out, but measures to reduce non-urgent visits to Emergency will continue with a net result in a small reduction in utilization rates projected in the future.

The following Figure 6 presents a model of 1999/00 emergency workloads and projected workloads distributed by site as at the planning horizon.

FIGURE 6: HISTORICAL AND PROJECTED EMERGENCY WORKLOADS FOR EACH HOSPITAL

Hospital Site	1999/00 #	1999/00 %	2015/16 #	2015/16 %
MSA General Hospital	41,780	40.0	58,800	40.0
Chilliwack General Hospital	34,375	32.9	48,500	33.0
Mission Memorial Hospital	21,852	21.0	32,400	22.0
Fraser Canyon Hospital	6,329	6.1	7,300	5.0
Total	104,336	100.0	147,000	100.0

Planning for emergency services at the FVHC/EFVCC site will be based on supporting a total of 60,000 visits annually.

Inpatient Services

The FVHR's hospital-based services and programs will be programmed to support the bed numbers and case capacities for the FVHC/EFVCC site illustrated in Figure 7 below. The projected numbers of patient days and discharges were derived from the number, occupancy rate, and average length of stay for each bed type. A detailed accounting of existing beds by site, department, and/or division appears as Appendix F.

An enhanced focus on a continuum of care for all inpatients will be initiated; including expansion of inter-disciplinary counselling/ assessment, discharge planning and family involvement.

FIGURE 7: FVHC/EFVCC SITE INPATIENT BED DISTRIBUTION AND FUTURE CASE CAPACITIES

	Existing (2000)	Future (2005)					Future (2015)				
Type	Beds	Beds	% Occ.	Pt. Days	ALOS	Cases	Beds	% Occ.	Pt. Days	ALOS	Cases
General Purpose Units											
Medical	88	132	90	45,988	7.5	7,358	142	90	49,275	7.5	7,884
Surgical	38		90		5.0			90		5.0	
Telemetry	-	14	90	4,599	3.0	1,150	16	90	5,256	3.0	1,752
Oncology	-	5	90	1,642	6.0	274	10	90	3,285	6.0	547
Subtotal, General Purpose Units	126	151		52,229		8,782	168		57,816		10,183
Special Purpose Units											
Obstetric, Ante/Postpartum	21	28 [1]	85	7,446	2.5	2,978	32 [1]	85	9,198	2.5	3,679
Pediatric	18	20	85	6,205	2.5	2,482	20	85	6,205	2.5	2,482
Psychiatric	20	29	90	9,527	9.5	1,003	36	90	11,826	9.5	1,245
Intensive/Coronary Care	10	13	85	4,033	3.5	1,152	18	85	5,595	3.5	1,599
Surgical Step Down	4	6	85	1,862	2.5	745	6	85	1,862	2.5	745
Palliative	-	7	90	2,299	8.0	287	10	90	3,285	8.0	411
Subtotal, Special Purpose Units	73	103		31,372		8,647	122		37,971		10,161
Total Beds	199	254		83,601		17,429	290		95,787		20,344
Neonatal Care	Bassinets	Bassinets									
Special Care	5	7	80	2,044	8.0	256	10	80	2,920	6.0	487
Total, Neonatal Care	5	7	80	2,044	8.0	256	10	80	2,920	6.0	487
TOTAL	204	261		85,645		17,685	300		98,707		20,831

Notes:
1 Includes ante/postpartum and LDRP beds.

Cancer Care Services

The new regional cancer centre on the site of the replacement MSA General Hospital will be planned to support the following workload volumes.

	2000	2005	Projected 2015/16
Cancer Frequency			
Area 1 [1]	5,008	5,545	7,002
Area 2 [2]	4,489	5,303	7,358
Northern Region [3]	802	963	1,340
Total	10,299	11,811	15,700
EFVCC Outpatients			
New Patient Appointments	0	1,200	2,800
Follow-Up Visits	0	7,200	16,800
Medical Oncology			
Chemo Treatment New Courses	0	200	480
Chemo Visits	0	2,800	6,400
Radiation Oncology/Therapy			
Cancer Cases for Lower Mainland	0	11,811	15,700
Treatments/Visits EFVCC	0	2,000	1636
Fractions Required	0	18	22
Fractions EFVCC [4]	0	36,000	36,000

Notes:

1 *Area 1 includes Vancouver, Burnaby, Richmond, North Shore, Coast Garibaldi.*
2 *Area 2 includes Fraser Valley, South Fraser, Simon Fraser Health Regions.*
3 *Northern Regions includes Peace-Laird, Northern Interior and Northwest Interior.*
4 *Based on 9,000 fractions per machine per year for 10 hours per day, 5 days a week.*

OPERATIONAL PARAMETERS

OPERATIONAL PARAMETERS

KEY FACILITY-WIDE OPERATING SYSTEMS & SUPPORT SERVICES

To ensure that operating systems information receives the broad exposure it requires, this section of the document consolidates narratives describing the FVHR's role in the movement of patients, visitors, staff, specimens, consumable materials, equipment, and information and the proposed methods for doing so. Factors having a direct bearing on operations at the FVHC/EFVCC site are also described.

Note: Although final decisions regarding many of the models proposed below may require further review (in the form of a cost-benefit analysis), the following descriptions assume a combination of centralized and decentralized functions, which will be used for planning purposes. In some cases, assumptions regarding proposed locations of the centralized services are made, but the potential for development on one of the acute care sites or in a remote, freestanding facility is acknowledged pending further analyses.

Biomedical Engineering Services

Biomedical Engineering services will have a physical presence at all acute care sites, however, the FVHC/EFVCC site is the proposed location for service administration and for an enhanced technical workshop capable of providing regional services.

Biomedical Engineering services will support the acquisition, repair, and routine maintenance of medical devices used in the delivery of patient care. Development and evaluation of new and/or experimental equipment will also be performed. Although some electrical equipment will also be serviced by plant maintenance personnel, clinical engineers will typically focus their work on equipment that is used for the diagnosis, monitoring and treatment of patients.

It is assumed that Biomedical Engineering will also provide a total service to the Cancer Centre excluding major radiation therapy equipment, which will be maintained by Clinical Physics staff.

The range of clinical engineering services described above will be provided to all facilities under the Region's jurisdiction (including home care services). On-site work will require periodic travel by clinical engineers making this mode of service delivery especially appropriate for scheduled preventative maintenance programs. Urgent responses to unanticipated equipment failures will be addressed through special visits and/or an equipment loaner service.

Due to extensive reliance on electronic technology in the provision of acute care, planning assumes that basic engineering workshop space will be established at each acute care site. Furthermore, it is assumed that one enhanced, full-service technical workshop capable of providing the regional services described above (excluding maintenance of a loaner equipment inventory which will remain located, as currently, at Mission) will be established. The FVHC/EFVCC site will experience a greater concentration of technology-intensive disciplines (e.g., vascular surgery and MRI) making this the preferred site for a full-service workshop as well as the administrative base for the Region's clinical engineers.

As a consequence of the expansion and volume of technical resources, more in-service staff education and demonstration activities will also be provided.

Planning assumes that biomedical engineering will not service imaging and lab equipment (vendor-support serviced) or become involved with servicing the Region's information systems. Difficulties in distinguishing between hardware and software problems warrant leaving this function under a single authority and preferably under the Region's Health Information Management service.

Health Information Management

Health Records Procurement/Management

The ability to universally access and share patient-related information among authorized users of this information throughout the FVHR is a major development priority. This concept will promote the use of the 'virtual health record' which is defined as a *digitally stored, computer accessible collection of health information about one person linked by a person identifier.* This will enable each patient/client to be tracked and his/her history retrieved regardless of where they enter the system. With an integrated and ubiquitous information system, patient/client information can be linked rapidly to medical treatment protocols.

The information available would include:

- Demographic data
- Personal health data
- Visit history
- Medication profiles
- Diagnostic test results
- Diagnostic images
- Assessment data
- Clinical notes/consultation
- Physician notes
- Nursing/care documentation
- Immunization records

Admitting functions for outpatients will be decentralized. Inpatient admitting will continue to be centralized. The assignment of unique patient identifiers will be consolidated at the FVHC/EFVCC site and will capture "core" data on all patients entering any part of the FVHR system.

Admitting/Registration

Admitting/registration services at all acute care sites will continue to function as the initial point for core data collection on most acute patients entering the Region's health care system. The FVHC/EFVCC site, however, will assume an added role as the Region's coordinating centre for assignment of patient identification due, in part, to the breadth of care services offered. Cancer patients will be admitted separately by BCCA.

Use of a single patient identification system throughout the FVHR does not imply a single patient record, although a single record which follows a patient to any acute care site is conceivable. The model being proposed is a means of accessing patient information only and planning assumes that each FVHR facility will either create records suited to their own needs or will "borrow" existing records and update the contents as necessary.

Patient booking will be decentralized within each acute care site and potentially to each department, but with access to a common database.

Strong communication linkages will continue to develop between admitting services and the various booking functions at each acute care site. The surgical suites, ambulatory clinics, day programs, and the various clinical support services will continue to manage their own scheduling, but access to a common data base will enable coordination of services during a single visit.

Health Records departments will be provided at all acute care sites and each will include transcription services.

The ability to share and access patient information will promote the integration of inpatient, outpatient, and emergency patient records under a single system. This will not preclude decentralized holding of active records (e.g., in the vicinity of the ambulatory clinics), however, all records will be managed according to a common set of standards and update practices. Furthermore, all records generated in respect of services provided under the auspices of the FVHR will be considered the Region's records. Individual physicians providing services on behalf of the FVHR may keep extracts for their own records; however, these will be optional and will not replace any part of the Region's records. Partially centralized transcription services will be provided at all sites initially, but this service will likely be phased out as the "virtual record" goes on-line and voice recognition computer systems are fully operational, allowing for off-site (including home-based) transcription, abstraction, dictation and data analysis.

Partially centralized transcription (if required) will be provided at all sites initially, but eventually will be totally off-site.

Records of patients being actively followed will be held within each service area enabling ready access by medical and other authorized personnel. Once a patient is no longer active in a service, his/her record will be deemed inactive and will be returned to the custody of Health Record services for retention and then retrieved when necessary.

The long-term retention of inactive health records will continue to be accommodated off-site, but will remain under the authority of each hospital's Department of Health Records.

Planning assumes that the long-term retention of inactive records will be continue to be centralized within the Region and accommodated off-site. Inactive records will remain under the control of the appropriate acute care site; however, sharing of records between sites is anticipated. It is assumed that, in the longer term, some or all of inactive records will be electronically scanned and stored on disk.

Management of services to patients and their escorts on the acute care sites will promote a concept of "one stop shopping" providing a patient-focusses, seamless transition through the

various service points of the Hospital. Facilities and services having natural public affinities or that are routinely accessed by patients will be consolidated as much as practically possible. Physically grouping services such as admitting with reception/general information, patient locater service, and patient accounting will enable rapid processing of an encounter. Furthermore, these encounters will be self-initiated as opposed to being directed by a hospital's escort service.

At all acute care sites, first visits to an outpatient clinic or for outpatient diagnostic procedures will require patients to proceed to their destination via Admitting services. Subsequent visits for treatment and/or assessment of the same condition will not require a stop-off in Admitting before proceeding to their destination.

A Pre-Admit Clinic will provide reception, pre-operative patient assessment/care and patient education in support of the Same Day Admit Program.

Pre-Admit Clinic

A Pre-Admit Clinic will accommodate the reception, pre-operative patient assessment/care/educational and office/consultation space associated with medical/general and surgical day procedures. The main objective of providing these services is to transfer a number of inpatient functions to the outpatient setting, thus streamlining the admission process for both patients and hospital staff, reducing the pre- and post-operative in-hospital length of stay, and minimizing last minute cancellation of surgical procedures.

Switchboard/Call Centre

Switchboard services will be expanded to become a regional call centre located with regional administration, potentially off-site. BCCA switchboard services may be separate, but opportunities for integration will be considered. Reception services, currently operated by admitting, will be provided by volunteers or others in the future.

Health Information Systems

Each site will include a centralized facility to accommodate the communications technology as well as personnel assigned to each site for user support services.

The model on which the FVHR will develop its health information systems assumes a centralized core of patient information. Other user applications will be fully integrated with this core; however, different applications and the core will be allowed to develop independently of one another (subject to integration capabilities).

Decentralized access to the patient-based core is assumed with the Region promoting "access at point of service" among all of its facilities.

Detailed plans for the future organization and operation of the Region's Health Information Management department will evolve

through subsequent planning work. Master programming for the FVHC/EFVCC site, however, will be guided by the following assumptions:

- Information technology for the Region will operate within the provincial health architecture framework and has been developed in order to maximize the use of multi-media communications systems focussed on voice/data/video imaging.

- Locations for facility management will be dependent on the specific applications and influenced by a number of factors, including need for security provisions, number and size of servers, etc. It is assumed, however, that both remote and on-site facility management will be utilized.

Each site will accommodate decentralized computer workstations throughout user departments supported by a centralized server centre.

- Hardware and workstations supporting a variety of user applications will be accommodated locally (i.e., within user departments at all acute care sites), but the communications technology allowing integration with the core and with other sites will be centralized at each site.

A sample of applications that are of greatest significance to functional programming include:

- remote access to a networked, secure system by physicians and other community agencies;

- extending the network within and beyond the walls of FVHC/EFVCC will allow for telehealth/medicine, video conferencing, teleradiology (i.e., exchange of grand rounds information, exchange of electronic imaging);

- an electronic patient record will evolve with the creation of an off-site data repository; with the use of SMART cards and/or other menus, patient information can be consolidated across multiple provider organizations;

- a mainly copper and fibre optic landline based WAN strategy moving to wireless and portable communication devices allowing flexibility as to place of work (70 to 80% of communications traffic will be wireless);

- 'point-of-care' technology using wireless technology which will allow clinicians to document workload and patient charts electronically;

- educational resources found internally and externally will be accessible (i.e., CD banks); and

- others.

Training of FVHC information systems personnel and staff at any of the Region's facilities will be based at the major sites (i.e., FVHC, CGH, MMH, FCH). General information systems administration will be centralized at the FVHC/EFVCC site. User support for individual workstations and applications, including the personnel responsible for providing this support, will be decentralized to various sites.

Planning will continue to be based on the generation, movement and retention of paper documents.

Although technology will support conversion to electronic records and data management eventually, planning will anticipate the continued generation, movement, and retention of paper documents.

Space for equipment storage and a staging area to prepare and load workstations scheduled for deplacement is also required. This function will be centrally located at the FVHC/EFVCC site.

Telecommunications

The Fraser Valley Health Region is currently being served by a state-of-the-art telecommunications system provided by NEC Canada. The two main components of this system are the NEAX PABX, a voice/data/video switch and an integrated voice processing system, plus a 'virtual private network' allowing local-to-local calling via a 4-digit coordinated dialling plan connecting all sites. The availability of this system has or will allow the following enhancements:

- Nurse Call System - Integrated.
- Wireless - (including wireless handsets in Nursing Units as part of the Nurse Call upgrade), leading ultimately to connectivity between Nurse Call, Wireless telephone, Meditech, patient, doctor and nurse.
- Aimworks - a comprehensive Telemanagement System consisting of several modules allowing for ranging levels of self-management of the telecommunications infrastructure.
- Voice Processing - including features of the voicemail server expanded to provide enhanced voice processing, IVR and unified messaging.
- Call Centre - allowing FVHR to configure any of its sites to function as a Call Centre on a dynamic basis.
- Med Help - including a suite of communications oriented applications, e.g., Physicians Office Network (P.O.N.), Patient Phone Services, Telemedicine and Video Conferencing (including desktop televideo-conferencing).

Laundry/Housekeeping Services

The regional Laundry will continue to operate remotely from the FVHC/EFVCC site.

The CGH-based regional laundry will require upgrading which must coincide with the opening of the replacement FVHC/EFVCC facility.

Laundry

The FVHR will continue to provide regional laundry services out of centralized facilities and immediate-term planning assumes continued reliance on the existing facility located at Chilliwack General Hospital. Centralized services will evolve according to a total linen management concept consisting of:

- general administration
- soiled and clean linen handling to user facilities
- soiled linen processing
- pack making (including surgical and obstetrical packs)
- standard and custom cart stocking
- uniform service (including purchasing and tailoring)
- inventory monitoring and control

Major objectives of this centrally administered service is to maximize the use of circulating stocks, control loss, minimize requirements for linen inventories at each site, and reduce the amount of handling as linen and linen bundles pass from point of processing to point of use.

Decentralization of linen management to all acute care sites will require the presence of Laundry personnel who will be responsible for the handling of clean and soiled linen and uniforms, but with distribution provided by Materiel Services.

Users of the centralized laundry will continue to include all acute care hospital sites as well as several long-term care facilities in the Region. As well, facilities outside of the Region may be provided service by the regional laundry in the future. The control of linen at each of these locations will become a decentralized extension of the central service and will include:

- linen bulk and exchange (quota) cart distribution
- soiled linen collection from containment areas associated with a linen chute (excludes the initial collection and consolidation of soiled linen which will be conducted by Housekeeping personnel)
- restocking and monitoring decentralized inventories
- uniform distribution and collection

The transportation of linen between user facilities and the central processing site will be by regularly scheduled truck deliveries. Linen delivery to point of use will be conducted by Regional Laundry personnel using exchange carts.

Housekeeping

Housekeeping will continue to be a regionally managed service with satellite operations at all acute care sites fro the purposes of maintaining a clean and sanitary internal Hospital environment; ensuring healthful environment; and reserving the capital investment in physical facilities, by regularly scheduled cleaning.

Key functions of this service includes:

- administrative activities relating to FVHC/EFVCC housekeeping services management, staffing and record keeping
- training for housekeeping staff at FVHC/EFVCC
- centralized storage for major housekeeping equipment for both the acute hospital and cancer facilities
- storage of approximately 1 week's supplies from which housekeeping staff will top up aide carts
- general cleaning of interior building surfaces, including interior window surfaces
- cleaning of operating rooms, and LDRP's between procedures, and nightly storage, recharging and cleaning of housekeeping equipment in Surgical Suite and Maternity Unit
- cleaning patient rooms, and stripping and making all beds at time of patient discharge or transfer; decontamination of beds
- washing of general purpose moveable equipment (e.g., I.V. poles, wheelchairs, stretchers, carts)
- collection of garbage and transfer to garbage chutes
- collection of soiled linen and transfer to linen chutes
- minor furniture rearranging, conference room set-ups

Housekeeping closets, each servicing approximately 700 m^2 will be distributed throughout the new buildings, providing space for day-to-day housekeeping supplies. Housekeeping closets will also provide for storage of basic housekeeping equipment (i.e., aide cart, with wheeled bucket/mop; floor sink; vacuum cleaner; floor polisher; brooms, etc.).

Housekeeping staff will separate soiled linen and garbage at use areas (at garbage/linen chute or point-of use with-pick-up by MM staff).

Materiel Services

General administrative services, including purchasing, supporting Materiel Services, transportation services and a single stores inventory location will be consolidated at an off-site warehouse.

The FVHR's materiel services will be built upon a concept of centralization designed to eliminate the duplication of functions, which are common to many facilities. The scope of services described below will be centrally administered and will support the acquisition and distribution of materials for all facilities under the Region's jurisdiction. Inherent in the concept of centralized administration is communications technology enabling the integration of materials handling and financial systems.

Medical, nursing, allied health and technical personnel at the various sites will have input to purchasing decisions, however, requisition processing, tendering and contract administration will be carried out by Materiel Services staff.

Management of consumable supplies inventory will rely on the development of an off-site central warehouse for the Region and

satellite stores at each site. The satellite stores support on-site needs such as:

- cart staging area
- safety stock items
- disaster stock items
- fresh (daily) food supplies
- capital equipment receiving

A top-up (or par level) system of supplies delivery to clean supply holding areas will be utilized at all acute care sites.

Inventories of consumable supplies required by nursing units and departments in their day-to-day operations will generally be maintained close to point-of-use according to a "par level" system. Daily requisitions will be filled from the Central off-site warehouse and trucked to each site.

The linen system will be maintained by Laundry personnel, but distribution of linens will be handled by Materiel Services staff using an exchange cart system (see Laundry Services description above).

FVHR printing service will be contracted out.

The FVHR printing service will be contracted out. Word processing and medical transcription will not be provided centrally as planning assumes that clerical personnel at each site will continue to produce general correspondence, reports for patients' records, and other confidential documents.

Materiel Services will distribute all materials, food, equipment, linen and patients throughout the acute care facilities.

Materials management services will assume responsibility for the distribution of all materials food, equipment, linen and patients throughout the acute care and facilities, although out of necessity, this will be a decentralized service to each site. A messenger/portering system established at each site will rely on a pool of staff porters to move supplies (including top-up and exchange carts), equipment, and patients between on-site destinations. Training given to all porters will enable responsibility for most intra-facility transports with the exception of patients in critical condition. These patients will be transported by nursing personnel and porters. A pneumatic tube system will be used to reduce demand on porters.

Central Processing will continue to be provided at all acute care sites.

Because of the difficulties and costs inherent in maintaining a sterile environment, planning anticipates continued decentralization of Central Processing to each of the acute care sites. This will also include the retention of ETO sterilization and the provision of pass-thru washers possibly with conveyer belts.

Active centralized equipment stores will be managed by MS.

Active equipment storage for items used intermittently (including stand-by equipment) by a variety of users will be managed by Materiel Services.

The long-term retention of inactive records will be maintained in Burnaby.

The scope of services included under the FVHR's centralized materials management service will include archival storage and retrieval. Traditional users of this type of service (Administration,

Health Records, Medical Imaging, and Laboratory) will have access to a central inactive stores area and will administer policies governing retention of items held there.

A central dead stores area will be established off-site for the long-term retention of various pieces of equipment and furniture.

Also included at FVHR's centralized materials service will be a central dead stores area for the long-term retention of records and equipment furniture items.

Nutrition & Food Services

Each FVHR acute care hospital site will continue to operate a separate Nutrition & Food Service Department providing for the production of food utilizing conventional production kitchens, plus cafeteria and catering services.

The system at the FVHC/EFVCC site will be sized to continue to provide a bulk meal service to the Worthington and Cottage (ECU's) Pavilion residents located on the existing MSA General Hospital site.

The provision of patient, staff and visitor meal services in the FVHR will be based on the concept of decentralized food production facilities at each of the acute sites and a number of the residential care sites. Planning assumes the following functions to be conducted at each hospital site:

- product breakout, assembly and ingredient control
- processing to include a mix of outsourced products as well as those prepared on-site
- limited processing of specialty and therapeutic food requirements utilizing conventional technology
- meal tray assembly
- bulk food assembly to serve dining room service/buffet service on selected patient care units, selected residential facility sites and revenue/catering operations
- assembling meals for transportation (incl. Meals-on-Wheels and take home meals for patients/adult day care clients, etc.)
- warewashing
- delivering meal trays to and from the patients' bedside or dining area
- short order preparation in revenue and catering operations
- catering to functions held on-site
- restocking decentralized kitchenettes
- maintaining inventories of perishable food items used by food services

Planning assumes the following functions to be conducted centrally from the regional offices:

- purchasing and utilizing an electronic order/inventory system with most contracts to be tendered by the Fraser Valley Materiel Services Alliance
- four-week core menu planning
- vending contracting

A computerized management information system (MSM) will be used for menu processing, production, cafeteria/catering and nutritional assessments. Data files will be created for patient nutritional care plans and monitoring of outcomes, as well as menus, recipes, inventory items and menu costing. Nutritional

analysis capabilities will also be available. This system will be integrated with the region's Meditech IS platform.

Transportation of processed food from FVHC/EFVCC to other regional facilities will be centrally coordinated and operated under the auspices of the FVHR Materiel Services. One exception to this will be the Meals-on-Wheels program, which will continue to be coordinated by Home Care services using volunteers for home deliveries.

Inpatient and outpatient dietetic counselling services will be provided at the FVHC/EFVCC site. Both individual and group nutrition education will be provided to patients, clients and their families. Services provided by inpatient dietitians will form an integral part of the inpatient care. The dietitians' offices will be decentralized to locations in close proximity of the services/programs to which they provide therapeutic nutrition services. Dietitians will provide post discharge follow-up to their clients.

Pharmacy

The production of unit dose packaging and dispensing, special medication compounding, narcotic control, as well as inventory control will be provided at the FVHC/EFVCC site. Sterile manufacturing will continue to be provided at each site. Automated medication cabinets (e.g., Pyxis) will be provided at point-of-service as required.

Medication needs of acute, rehabilitation patients and long-term care residents will be accommodated under a Region-wide system. Components of this system will be both centralized and decentralized based on current trends of physically separating the roles of clinical pharmacists from the "production technology" of pharmacy operations.

The model proposed for the Region will include a central drug preparation and distribution centre at the FVHC/EFVCC site with pharmacy satellites being decentralized for the other acute care sites.

Centralized functions will include purchasing, manufacturing/ compounding, packaging, unit dose picking, and inventory management. Decentralized functions will consist of provision of STAT medications, sterile manufacturing, special compounding narcotics, interim doses as well as some wardstock medications and clinical pharmacy consultations on the use and potential side effects of medications. Consultative services will be available to patients as well as medical and nursing staff. Dispensing to outpatients and emergency patients will be decentralized to each of the acute care sites.

Decentralized drug inventories and medication preparation will not be anticipated with the exception of STAT medications, special medication compounding, interim doses and some wardstock medications, the outpatient pharmacies and the FVHC/EFVCC's pharmacy.

Due to the unique nature of products and services required by cancer patients, the BCCA-managed pharmacy in the EFVCC will accommodate drug inventory maintenance, clinical pharmacy

consultations, central chemotherapeutics preparation for inpatients, outpatients and some community patients.

Dispensing of medications will generally be conducted using automated medication cabinets (e.g., Pyxis) for inpatients and long-term care residents (scope to be determined). Planning assumes that unit doses will be delivered to each site by the Region's transportation network and then each site's internal portering system will deliver to the point-of-use assuming that the required level of security containment can be maintained throughout delivery.

Pharmacy Information access will include (paperless) on-line charting and prescribing, and access to PharmaNet at key locations on all sites.

Different Pharmacy outreach services will evolve at each acute care sites.

Pharmacy's outreach role will be accommodated at the four acute care sites, however, planning assumes that very different foci will evolve at each one. The FVHC/EFVCC site, which is the proposed location for most of the "high technology" services, will participate in various home care programs in which the emphasis is on drug therapy (e.g., home IV therapy, home TPN, direct observed therapy). Home care will generally be a shared responsibility, involving FVHR community service agencies, but the integration of pharmacy personnel into such roles as home visits, patient and community worker instruction, and drug preparation and delivery is anticipated.

Other outreach functions anticipated for the FVHC/EFVCC site will build on the existing pharmacy-based drug information service and planning assumes that a regional poison control service will continue to be provided by St. Paul's Hospital. This service will provide 24-hour consultative coverage for suspected and confirmed cases of poisonings and drug reactions. Access will usually occur by telephone, however, the service's reference materials will also be available to authorized hospital personnel. In the future, access may also be available through the FVHR's computer network.

In addition to its clinical service role, Pharmacy Services will participate in clinical research protocols conducted at any of the acute care sites, but excluding those associated with the Cancer Centre. Studies will include the evaluation of approved medications and "phase II" trials involving new medications. The scope of services required to support these will coincide with those established for routine clinical services, therefore, substantial requirements for research-dedicated resources are not anticipated.

Plant Services

Plant Services will provide a full range of services supporting the maintenance and daily operations of facilities under the FVHR jurisdiction including renovation/construction projects up to $1.5 million. Services include:

- Facilities Maintenance & Repairs
- Facilities Plans/CAD Files Management
- Plant Operations/Engineering (energy centres)
- Security Services (including parking control and video surveillance/card access systems)
- Maintenance of call centre and building alarm systems

The administrative functions supporting regional Plant Services will be consolidated at the FVHC/EFVCC site.

Most of the above services will be at least partially decentralized to each of the Region's facilities because of needs to continuously support daily operations.

- Selected services will continue to be contracted out include:
  - Medical gases testing
  - Pressure vessel inspection
  - Breakers/transformers
  - Appliance repair (kitchen equipment/sterilizers, etc.)

The materials inventory for Plant Services will be decentralized to each Plant Services department on each site.

Energy management is a major operational issue and expense for the FVHR and, therefore, the project will ensure effective energy conservation options are incorporated into the new facilities. Non-project funding sources will be considered to finance energy management capital requirements.

Transport Services

A central transportation network supporting the movement of people and materials will be administered out of the FVHC/EFVCC Central Materials Management location.

Critical to the FVHR's success in moving large volumes of people, supplies, equipment, specimens, food, and information and moving all of these items on time, is a coordinated transportation system. Planning, therefore, assumes the establishment of a central transportation service that will assume responsibility for all aspects of a scheduled vehicular pick-up and delivery system. Unscheduled and urgent requirements will also fall within this service's responsibility with the exception of emergency patient transportation. The Region's transportation network will accommodate movement of the following:

- patients and long term care residents (elective and non-urgent cases only and excluding ambulance transportation)
- staff
- consumable supplies, pharmaceuticals and equipment
- prepared food and soiled ware
- mail including inter-office (within 1 site) mail

- specimens, films, and patient records
- linen and uniforms
- waste

Summary

The table below attempts to graphically illustrate the extent to which systems and services described in this section will be centralized and decentralized and in which location.

LOCATION OF CENTRALIZED AND DECENTRALIZED SYSTEMS AND SERVICES

System/Service	Sites FVHC/ EFVCC	CGH	MMH	FCH	Other
Admitting/Registration	▲	▲	▲	▲	
Biomedical Engineering	●	▲	▲		
Central Processing	▲	▲	▲	▲	
Health Information Systems	▲	▲	▲	▲	●
Health Records	▲	▲	▲	▲	○
Laundry Services	○	●	○	○	
Materiel Management	▲	▲	▲	▲	●
Nutrition & Food Services	▲	▲	▲	▲	
Plant Services	●	▲	▲	▲	○
Transport Services	●	○	○	○	

LEGEND:

● Major presence, centralized Regional service location (may be limited to a single site)

▲ Major presence (may be "full-service" and/or represents a satellite operation)

○ Minor presence (decentralized and/or may represent a minor satellite operation)

Other Represents other FVHR facilities suggested as residential and community-based facilities, or other off-site location (e.g., materiel services warehouse).

FINANCIAL PARAMETERS

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CAPITAL FUNDING

No fixed capital budget has been established for the replacement project, however, the June 2000 Proposal submitted to the MOH jointly by the Fraser Valley Health Region and the BC Cancer Agency did estimate total project costs of approximately $189 million, $154 million for the hospital and $35 million for the cancer centre. The Master Program will rationalize and establish space requirements on which an updated preliminary capital cost estimate will be generated.

There are no capital funding restrictions on the functions to be included in the project (health or other community services).

OPERATIONAL FUNDING

No fixed operating budgets have been established for the replacement hospital facility and cancer centre facilities, however, a preliminary Pre-Construction Operating Estimate (PCOE) has been prepared for the Hospital only. The Project Definition Report phase of the work will provide refinements to the earlier estimate as well as include a PCOE for the Cancer Centre portion of the project.

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2 MASTER PROGRAM

INTRODUCTION

This document describes the activities and spaces which are required to meet the proposed roles of the Fraser Valley Health Centre (FVHC) and Eastern Fraser Valley Cancer Centre (EFVCC), as described in the Program Parameters section. The Master Program can be viewed as a "translation" of the stated parameters into preliminary physical resource requirements. **This information will be developed in considerably more detail in a subsequent facility programming task and should, therefore, be viewed as preliminary information sufficient in accuracy and detail for project definition and master planning purposes.**

This document is presented in three main sub-sections as follows:

- Space Summary tables provide listings of programmed component gross areas and building gross areas for both the FVHC and EFVCC facilities. **Some of these estimated areas have been revised as a result of a program VA/review that took place in late September. Notes regarding the adjustments made can be found in the Executive Summary and in italics with each component affected.**

- General Planning Criteria provides an understanding of major planning concepts and objectives which pertain to the Centres as a whole or to particular groups of functional components.

- Component Planning Criteria provides a scope description of each functional component in both Centres and those components potentially accommodated off the site with an estimate of future space requirements and the preferred relationships each component has with other components.

FRASER VALLEY HEALTH CENTRE BUILDING SPACE SUMMARY

The building space summary in the table below tabulates the component gross areas square metres (CGSM) for each functional component as well as the building gross square metres (BGSM) for the FVHC building(s) as a whole. The CGSM shown in the 1994 MSA Hospital Preliminary Design column is shown for general comparison to the current Master Program area.

Service Group		1994 Preliminary Design CGSM	2000 Master Program CGSM
A	**High/Medium Serviced Facilities (Post Disaster)**		
A1	General Medical/Surgical Inpatient Units	7 480.4	5 735
A2	Maternal Child Program	3 542.1	4 687
A3	Mental Health/Psychiatry Program	2 235.3	3 337
A4	Palliative Care Unit	929.6	600
A5	Critical Care Units (ICU/CCU/SSDU)	846.1	1 600
A6	Emergency	1 284.1	1 475
A7	Surgical Suite (incl. PACU)	1 922.8	1 965
A8	Medical Imaging (incl. Nuclear Medicine)	1 801.5	2 200
A9	Laboratory Medicine	1 425.0	1 500
A10	Morgue/Autopsy	216.2	190
A11	Biomedical Engineering	101.0	194
Subtotal Component Area, A		21 784.1	23 483
B	**Low Serviced Facilities (Post Disaster)**		
B1	Surgical Day Care	432.8	760
B2	General Day Care (incl. Endoscopy)	715.6	800
B3	Cardiopulmonary/Neurodiagnostic Services	357.4	493
B4	Pharmacy	508.4	650
B5	Health Information Management	897.1	838
B6	Volunteers/Auxiliary Services	190.2	102
B7	Spiritual Care Services	90.0	90
B8	Main Entry Facilities	-	400
Subtotal Component Area, B		3 191.5	4 133
C	**Low Serviced Facilities (Non-Post Disaster)**		
C1	Wellness Centre (incl. Diabetes Education)	168.2	1 207
C2	Outpatient Clinics	833.3	435
C3	Pre-Admission Clinic	115.0	348
C4	Rehabilitation Services	572.3	400
C5	Site Administration	1 969.6	570
C6	Education Facilities	-	470
C7	Renal Dialysis Unit	-	680
	Central Staff Facilities	358.7	-
Subtotal Component Area, C		4 017.1	4 110
D	**Industrial/Shop Facilities (Post Disaster)**		
D1	Nutrition and Food Services	2 127.3	2 127
D2	Materiel Services (incl. CPD)	1 572.6	1 340
D3	Ambulance Station	-	(460)
Subtotal Component Area, D		3 699.9	3 467

FVHC BUILDING SPACE SUMMARY

2 Master Program

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Service Group	1994 Preliminary Design CGSM	2000 Master Program CGSM
E Industrial/Shop Facilities (Non-Post Disaster)		
E1 Plant Services	388.6	440
E2 Linen/Housekeeping Services	440.5	455
Subtotal Component Area, E	829.1	895
F Regional/Other Facilities (Non-Post Disaster)		
F1 Regional Administration	-	(1 886) [1]
F2 Regional Materiel Services (Warehouse)	-	(3 500)
F3 Child Day Care Facility	-	(200)
Subtotal Component Area, F	-	(5 566)
Total Component Gross Area	33 521.7	36 088
Unassigned Gross Area (Incl. mech., ext. wall, major circulation, etc.)	12 307.5 (1.367)	12 912 (1.36)
Public Links/Corridors	-	991
TOTAL FVHC BUILDING GROSS AREA	**45 829.2**	**49 991**

Notes:
1 Areas in brackets have not been included in the Total Compcnent Gross Area or the Total Building Gross Area.

EASTERN FRASER VALLEY CANCER CENTRE BUILDING SPACE SUMMARY

Service Group	2000 Master Program CGSM
G High/Medium Serviced Facilities (Non-Post Disaster)	
G1 Radiation Therapy Area	1 850
G2 Clinical Physics	660
G3 Dentistry	25
Subtotal Component Area, G	2 535
H Low Serviced Facilities (Non-Post Disaster)	
H1 Entry Facilities	160
H2 Patient Resources	180
H3 Patient Counselling	200
H4 General Clinic Area	700
H5 Systemic Therapy Area	220
H6 Pharmacy	130
H7 Clinical Trials Area	80
H8 Medical Staff Offices	540
H9 Patient Information Management	300
H10 Administration	180
H11 Staff Support	125
H12 Clinic Support	125
Subtotal Component Area, H	2 940
Total Component Gross Area	**5 475**
Unassigned Gross Area (Incl. mech., ext. wall, major circulation, etc.) (25%)	1 370
TOTAL EFVCC BUILDING GROSS AREA	**6 845**

GENERAL PLANNING CRITERIA

GENERAL PLANNING CRITERIA

INTRODUCTION

This section of the document is intended to provide an understanding of major planning criteria related to the needs of patients, staff, and visitors which impact on the site as a whole, or on specific groups of functional components.

The intention of this section is not to suggest physical planning solutions, but rather to identify the functional requirements for planning that will assist the Consulting Team and User Groups in development of the most appropriate environment for people and systems as design work proceeds.

It is recognized that some of the criteria described here may not be achievable (or may be only partially achievable) due to physical and economic constraints. It is, however, considered useful here to cover all important aspects of planning in order to re-acquaint the reader and planners of the highest standards desirable.

The narrative is organized under 3 sub-headings as follows:

- Site Planning Criteria
- Building Planning Criteria
- Major Functional Groupings

SITE PLANNING CRITERIA

Building Siting and Orientation

New construction should take maximum advantage of the site's positive features. New buildings should be massed so that vehicular and pedestrian arrival sequences clearly focus on patient and visitor entries. Energy conservation should also be a determining factor in orientating the building mass. Patient care areas should be located as far as possible from service courts and other potential noise sources. Considering prevailing winds and building height requirements, air-conditioning system air intakes should be located in relation to the boiler stack so that noxious products and other exhausts are not drawn into the buildings' air systems. Maximum opportunity for views to the exterior from all areas should be achieved.

Environmental Design Elements

Depending on the opportunities presented by the site, environmental design elements could be used effectively to create a dramatic and inviting outdoor space which would contribute significantly to the character of the surrounding environment. Features such as innovatively designed bus shelters, street furniture, lighting systems, kiosks, paving, landscape, fountains and artwork may be integrated in order to create a visually active, secure, and dynamic space for staff and public gatherings.

Landscape

Landscape should be an integral part of the site planning such as widened sidewalks and plazas. The development of public green space, horticultural spaces, and the retention of existing trees and provision of new trees and other vegetation would greatly enhance the image and attractiveness of all facilities.

Vehicular Circulation

General

It is assumed that staff and visitors will continue to primarily rely on the car to access the new site for the foreseeable future, that a high volume of materials and supplies delivery traffic will continue on site and that therefore, vehicular movement will continue to be a major planning issue for the site.

On-site vehicular circulation systems should be capable of handling projected volumes and should include alternative routes for unanticipated interruptions of normal patterns. The network should be logical so that visitors unfamiliar with the site can readily find their way to their destination. A clear sense of direction and orientation should be provided, primarily through visual recognition of destinations. This should be supplemented by a concise graphics and signage system. The various traffic types should be separated as early as possible on approach to the site. Priority should be given to emergency, bus and patient/visitor traffic. Vehicular intersections and pedestrian

crossings should be well-marked and illuminated for increased safety and security after dark.

Patient/Visitor

Routes should be clear and direct, including drives to covered drop-off points near the Hospital. Drivers should be able to deliver passengers to the appropriate entry and continue to a designated parking area. Pick-up routes from the parking area to the drop-off point should not require a return to adjacent streets. Access drives should be wide encugh to allow movement past waiting or parked vehicles. Weather protected seating should be provided at all pick-up/drop-off points.

Service

Service vehicle routes should be clear, direct and well marked. Service drives and courts should be screened from view by other users of the site both visually and acoustically. Grades on service drives should be eliminated where possible to minimize motor and transmission noises. Again, all air intakes should be carefully located so as to not draw in vehicle exhausts. Solid waste and morgue holding service courts should be separated from other functions. Service traffic should be separated from people traffic to the maximum extent possible.

Emergency

Emergency vehicles, including both ambulances and fire equipment, should be provided with clear, direct routes which are well marked and illuminated. The routing system should require minimum travel time and distance and should terminate as close to the destination as possible. Vertical clearances of canopies should be adequate for the largest transport and fire vehicle to be used. No other circulation system should cross this emergency route. Back-up emergency routes should be provided to eliminate possible delays caused by congestion on primary access routes. Immediate patient/visitor access to both short-term and regular parking areas should be provided.

Parking

Off-street parking facilities should be able to handle projected demands. Parking lot layouts should be orderly and logical to minimize confusion and excessive internal circulation. Parking facilities should be well lighted and located as close to patient and staff destinations as possible (e.g., to the Cancer Centre). Walkways and shelters should be planned in conjunction with the parking areas to minimize pedestrian/vehicular conflicts. Where assigned parking is used, preference should be given to short term users (i.e., outpatients).

Critical parking areas, such as those adjacent to Emergency, should be designed so that distraught drivers can park and leave their car without blocking circulation. Close-in staff parking should be available for evening and night shift workers to provide an increased sense of security for these employees. In addition, a reasonable number of close-in protected parking stalls should be dedicated to the handicapped.

Staff parking areas can be less direct than those for other types of traffic, since the staff will be familiar with the facility. However, these routes should be able to handle greater volumes of concentrated traffic than other routes, particularly during shift changes, and a drop-off point should be provided, which should be safe and secure.

Pedestrian Circulation

A general network of sidewalks should be provided to link all parts of the site. Gentle grades, not exceeding five per cent (5%), should be maintained on all sidewalks for wheelchair use. Pedestrian/vehicular conflicts should be minimized by carefully coordinating the two circulation networks. In the event conflicts cannot be avoided, crossings should be well marked and illuminated.

Upon leaving their vehicles, patients and visitors should be able to directly enter the facility of destination. Entrances should be clearly identifiable by both drivers and pedestrians. Walkways should incorporate seats, handrails, curb cuts and ramps to accommodate infirm or wheelchair bound patients. Adequate lighting and sightlines should be incorporated to provide a sense of security after dark.

Exterior Signage

Exterior signage should include:

- Formal identification of the Health Centre and Cancer Centre fixed in an architecturally appropriate location, floodlit at night, and readable from a distance of 150 metres.
- Informal directional and operational signage integrated with urban design concepts on the site.

Utilities Planning

Utilities include water, gas, electricity, storm, sewage and communications. They are in use every day, all day, in support of all activities on site. They cost money, in terms of energy consumption, facilities, and their effect on human resources.

Good utilities planning can result in significant savings and can, indirectly, raise the level of patient care and satisfaction. The creative core of good utilities planning focuses on four core services: cooling, heating, electricity and communications.

Planning for other utilities services must be accommodated, but plans for these should be based on strategies developed for the core services, as follows:

- Centralization: centralization of heating, cooling and electrical systems complements planning for system capacity, redundancy and flexibility.
- Future Growth: in sizing new services where future growth is likely, allow for future growth in distribution mains and space for future equipment and consider a modular approach for building systems extensions.
- Redundancy: plan for redundancy with dual site services for electricity, domestic water, natural gas and communications systems. For on-site equipment serving critical functions, plan for redundancy with either standby equipment or active equipment that can be automatically commandeered when needed, particularly for the linear accelerators in the Radiation Therapy of the EVFCC.
- Flexibility and Accessibility: a lack of utilities flexibility and accessibility can prove to be more significant in limiting a building's usefulness and life expectancy than either its capacity or age. Future developments will provide for flexibility by providing looped distribution lines, ample branch-isolation valves, and adequate space for new services and maintenance access. Cable communications trays and provision of fibre optic hardware should be provided throughout the campus, in all buildings, and should form part of every minor and major capital project.
- Energy Conservation: evaluate heating, cooling and electrical loads and relationships for potential energy conservation applications, peak electrical demand shaving, cogeneration and thermal storage.

Green Space

The definition and development of green space is essential to providing a healing environment for patients, visitors and staff, and to enhancing the site's capacity as an asset of the neighbourhood. Adequate green space should be considered as part of good patient care and staff support, and part of being a good neighbour and citizen. Considerations include:

- views to green areas
- walks by and through green areas
- driving by or through green areas
- relaxation and meditation
- lunches, meetings and socializing of staff, visitors and patients

Key planning strategies must include the definition, enhancement and development of green space as integral to the project. More specifically, these strategies should focus on the following areas:

- providing green space immediately adjacent to the main cafeteria
- developing secure and directly accessible green spaces directly from the mental health program, pediatric and palliative areas if possible
- as part of being a good neighbour, develop substantial green "buffer" area between the site and the street

BUILDING PLANNING CRITERIA

Healthcare Campus

A trend in hospital planning and design has been to view the concept of hospital as a single building entity. Solutions that resulted in facilities of 1.5 to 2.0 million square feet were not uncommon. The result was floor plates with very large areas that were designed to provide significant opportunities to expand individual departments in response to changing demands (e.g., by locating "hard" spaces next to "soft" spaces). Conversely, departments located deep within the floor plates and not adjacent to exterior soft space (or walls) required the relocation of other departments in order to accommodate any expansion. This domino effect resulted in increased cost to an expansion project and in some cases to its cancellation. Alternatively, compromise solutions were developed that physically split the department resulting in dysfunctional arrangements and increased operating costs.

The concept of the healthcare campus, not unlike a university campus, allows for a progressive development over the lifetime of the campus without the need to achieve an "ultimate solution". Issues of expansion, adjacency and sustainability of the hospital as a whole, as well as the individual departments, might best be served by a campus approach. While we assume that our hospital buildings will serve our needs for 30+ years, the campus concept allows for continual renewal without limit through the strategic removal of individual buildings that have outlived their useful life. This ability to selectively renew, replace and expand individual elements without compromising the ongoing operation of the entire organization should be carefully considered. Additional benefits to the patients and staff concerning accessibility, wayfinding and access to day light, while not specific to issues of flexibility, are opportunities for environments that are scaled to the comfort of the individual and organized as links to the future.

Considerations of Building Type

Major hospitals are like urban centres in that they support large numbers of people in a wide variety of work environments. They also accommodate a broad range of space-types, as does a city or town, including: commercial space (offices/medical offices and practices), industrial space (materiel management, engineering and maintenance shops, food production), residential space (patient and resident bed-rooms, bathrooms, living space) and high tech space (diagnostic imaging, clinical and research laboratories, surgical suite, etc.).

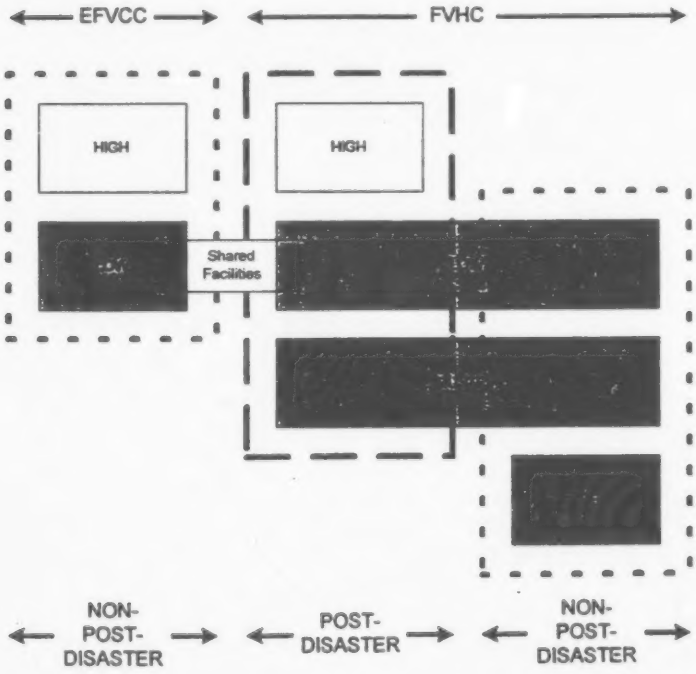
Some spaces in a hospital are recognized as part of a critical cluster that should be post disaster capable while a majority of other spaces do not need to be designed to this capacity.

Locating space in specific building-types, which may attract different design standards and different unit costs to construct, is worthy of consideration at the master planning stage.

Functional components in this program are organized by service groups which signify similarities of physical and support systems requirements and need for post or non-post disaster design. There are 6 main service groups as follows:

- High/Medium Serviced Facilities (Post Disaster)
- Low Serviced/Office/Retail Facilities (Post Disaster)
- Low Serviced/Office/Retail Facilities (Non-Post Disaster)
- Industrial/Shop Facilities (Post Disaster)
- Industrial/Shop Facilities (Non-Post Disaster)
- Regional/Other Facilities (Non-Post Disaster)

The physical plan should achieve a physically grouping of like kinds of space wherever possible.



Green Buildings

This project must conform to the 'green' performance standards established by the provincial government's Green Buildings BC New Building Program.

Operational Efficiency/Quality of Service

The operational efficiency and effectiveness of caregivers in a hospital are greatly influenced by the physical design of facilities. A hospital is a very labour-intensive institution, which requires considerable movement of materials, staff, patients and visitors. The planning and design process must result in a physical plan and the organization of components that will minimize operating costs and maximize the quality of service.

Image and Environment

The external image of both the Health Centre and the Cancer Centre should make a symbolic statement about the values, which both the FVHR and BCCA embody.

All planning strategies should be considered within the context of advancing patient care and the enhancement of the FVHC and EFVCC as a humanistic and unthreatening refuge for healing and access to health and wellness. There are many possible strategies for achieving this goal, examples include:

- provision of the main entry outdoor and indoor space as a familiar, non-institutional area by making it a lively destination for visitors and patients, provision of varying kiosk retail and food functions, etc.;
- provision of an art program to invite community artists to display their work on a permanent and temporary basis within the buildings and on the site;
- maintenance of a clear distinction between those areas of the facilities which are fully accessible to the public and those that are secured private areas/restricted to staff access only.

Patients and visitors entering the Centres may be disoriented or anxious and many will be older patients who may have diminished cognitive and physical abilities. Every effort should be made to minimize the potentially intimidating nature of the typical institutional setting. Highly technical areas should be visually and acoustically isolated. Patients, visitors and staff should perceive the environment as open and accessible rather than regimented and intimidating.

The Main Entry/Lobby Facilities and Admitting of both Centres as common destinations and often the location where first impressions are made should be easily accessible and welcoming to visitors.

Views of the exterior and natural light should be provided from/to all patient care areas and staff work areas wherever possible. The psychological impact of the facility concerns not only the patient, but family, visitors and staff as well.

A general image of public accessibility should be provided which will be enhanced through the provision of "retail type" space located in the public area of the FVHC; by encouraging public use of the proposed new café; and by the provision of a single "front door" focal point for each Centre (see also Site Planning Criteria section in this document).

General Space Characteristics

Building space should be provided to generally allow for a maximum number of horizontal relationships between components, efficient intra-component clustering of spaces, and multiple circulation systems for separation of traffic types. These conditions may be achieved most readily with large, "deep plan" blocks of space. However, in the interests of staff and patient comfort and well-being, such potentially windowless "deep plan" space should be minimized wherever not critical for the functions being planned within it, in favour of space that will maximize the accessibility of all users to external views and natural light.

It should be noted that accessibility to views and natural light can be achieved by means of internal courtyards and clerestorey roof lights as well as by locations close to an external wall.

All new buildings should be designed for potential future growth, vertically and/or horizontally, but especially in areas where the need for expansion has been specifically highlighted (e.g., ambulatory care areas).

Flexibility

Versatility in the utilization of inpatient care facilities is to be achieved by maintaining typical inpatient unit sizes and configurations wherever possible. With the exception of the special purpose-built units, all inpatient care programs will be accommodated in general purpose units planned to accept a variety of programs in the future.

Versatility in the utilization of outpatient care facilities is to be achieved by:

- centralization of most outpatient components
- consolidation of modular general space
- segregation of special purpose or highly services (mechanical systems) space

In the highly technical (diagnostic and treatment) areas, large, open blocks of space with wide structural bays and minimum column area on each floor should be provided to allow for:

- a maximum of horizontal relationships between components
- efficient intra-component clustering of spaces

- multiple circulation systems to facilitate separation of traffic types
- maximum flexibility for technical or functional renovation, and/or future conversion to other uses

Building Accessibility

Public orientation to and from all parts of both Centre should be achieved by emphasis on "first time" entrances where personal guidance and building graphics/signage can introduce the interior circulation system to the user.

The ambulance entrance to Emergency should be distinct from other entrances.

Provision of a secondary covered ambulance drop-off point to serve the inter-facility transport service mostly for cancer patients (but also include MLC clients e.g., coming for diagnostic testing).

The service vehicle loading/unloading area(s) should be distinct from other entrances.

All areas of both Centres must be accessible by handicapped persons.

All parts of the structure must be accessible from the exterior by fire fighting equipment.

Two Main Entrances

A distinct main entrance should be provided for both Centres, which creates a "front door/focal point" for entry to each building and enhances the general image of public accessibility. If possible, these should be adjacent and connected.

General Circulation

Interior Horizontal

Interior horizontal circulation systems should provide clear and direct access to all areas of all buildings. Opportunities for orientation to the rest of the facility should be provided at as many points as possible.

Separate horizontal circulation routes should be provided for clean/sterile and soiled goods where possible.

Interior Vertical

Interior vertical traffic also requires similar segregation. Public/outpatient traffic should be provided with separate elevator systems from staff/inpatient traffic.

Separate vertical circulation routes should be provided for clean/sterile, soiled goods and garbage.

Internal Circulation System

A direct and easily understood internal circulation system of corridors is essential to the effective movement of staff and materials through a hospital campus, and for orienting and guiding visitors and patients.

A simple ground floor interior circulation framework will be developed as an integral part of the new development. It will act as the primary functional organizing and orientation element of the ground floor and will improve the flow of materials and people by being as direct as practical, and by differentiating public and service circulation to the extent practical.

Primary elements of this framework include:

- Public/Visitor Circulation

  Direct, primarily public route from the main entrance to all areas of the building, in particular to vertical circulation nodes (elevators, convenience stairs). Orientation devices should be provided at as many points as possible.

  Stairways should be used to augment personnel movement between floors with "convenience" stairways located adjacent to elevators and elsewhere throughout the building. Stairwells should be pleasantly designed, bright and properly lighted.

  There should be a clear and direct connection between elevators and building entrances and from elevators to all areas within the building. Passenger elevators should be clearly identifiable and service elevators should not be obvious to the public.

- Materials Circulation

  Materials circulation routes should be segregated from public/visitor/patient circulation routes whenever possible. Separate, restricted or dedicated horizontal circulation system between materiel departments (supplies, food, etc.) and elevators should be provided. Dedicated elevators should be provided for materiel movement with separate elevators for clean/sterile and soiled items. Laundry and garbage chutes should be considered.

Orientation Signage and Wayfinding

Easy wayfinding to, and within, a large medical complex is of critical importance to patients and staff alike and ultimately saves staff time in giving directions and reduces stress experienced by visitors and patients. In general, wayfinding needs include:

Patients and Visitors:

- knowing how to find the facility from their home or office
- knowing where to park
- knowing and understanding the name of their destination
- knowing how to find the correct entrance
- knowing the building name, floor and room number of their destination

Staff:

- orientation to the facility when they first begin work
- understanding the layout of the facility
- ability to confidently direct patients, visitors and fellow staff
- knowing how to access wayfinding information if they don't have it themselves

Ideally, the building, its circulation systems and functions should be simply organized so that wayfinding is inherently easy and the importance of additional signage reduced. This can readily be achieved in a new complex.

The need for good wayfinding strategies is essential. General strategies include:

Interior Design and Signage:

- Develop transition wayfinding elements that clearly tell the visitor when they are leaving one building and entering another (e.g., colour schemes, interior design elements, signs including building names).
- Use different materials and different forms to make separate buildings on the same site distinguishable from one another.
- Provide orientation landmarks at ends of corridors and major intersections (e.g., artwork, large windows, etc.) – see following diagram.
- Design major public routes to look different from other, secondary public and service routes.
- Use plain language in signage that is clear and easy to understand by the non-medical professional (e.g., "eyes" vs. ophthalmology, "kidneys" vs. renal, "radiology" vs. diagnostic imaging, etc.).

- Provide wayfinding-related lighting to ensure that overhead signs, landmarks, "You-Are-Here" maps, public elevator lobbies, and entrances are distinctive and well lit.
- Design key areas to be visually distinctive from adjacent corridor areas, such as elevator lobbies, major departmental entrances, and other major destinations.
- Design staff and public areas to look significantly different from one another.
- Recognize that the formal main entry and functional main entry (possible direct access point from the proposed parking structure, where most people will enter the Hospital) both need to function as main entrances, and should both have appropriate wayfinding devices.
- Plan interior circulation patterns to consist of a simple and direct rectangular grid, avoiding complex intersections.
- Plan vertical circulation (especially elevators) to be easy to see and recognize along major circulation paths.

Outside Design & Signage:

- Ensure that views to important signs, site and building entrances, and entry drives are not obstructed by trees, shrubs, or berms.
- Locate the Emergency Department where it is easy to see and access.
- Provide street names at major exits.
- Ensure that drop-off areas are designed to accommodate the amount of traffic that will be present at peak use times.
- Plan for night time wayfinding ease by ensuring that intersections, entry drives, major building entrances, Emergency Department entrances, exterior directional and identification signs, and parking areas are all well-lit.

Inside:

- Ensure that major building entrances are distinctive and easy to recognize.

MAJOR FUNCTIONAL GROUPINGS

In general, the successful functional organization of each Centre involves locating functions to both minimize unnecessary movement of people and materials, and to concentrate more capital intensive, expensive space and equipment together. In other words, strategies of "one stop shopping" and locating "like functions with like functions", can have substantial operating and capital economies and should be considered as general strategies for the development of the campus.

Also, certain components within each Centre require close groupings with others for one or more reasons (e.g., sharing of support facilities and staff, accessibility, future flexibility for shifting boundaries, expansion etc.). The following diagrams illustrate the key groupings that should be achieved wherever possible. In some cases a "higher priority" for adjacency applies to selected components within each group.

FVHC Ambulatory Care Services Group

Ambulatory care services, including outpatient clinics and day care programs, should be centralized, as much as possible, to consolidate ambulatory patient traffic and should be oriented to a major public entry, preferably located at grade level.

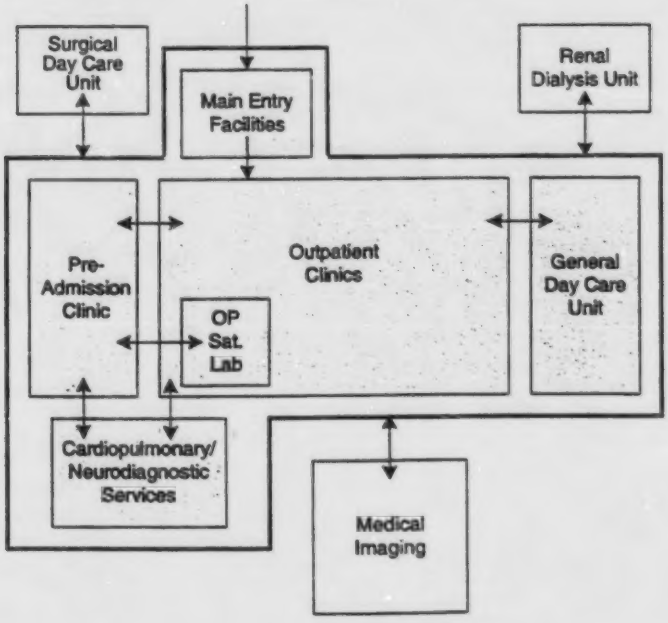
An Ambulatory Care Services Group should be developed and comprised of the following components:

<u>High Priority Adjacency</u>

- Outpatient Clinics
- Pre-Admission Clinic
- General Day Care Unit
- Main Entry Facilities
- Cardiopulmonary/Neurodiagnostic Services

<u>Lower Priority Adjacency</u>

- Surgical Day Care Unit
- Main Entry Facilities
- Medical Imaging
- Renal Dialysis Unit
- Mental Health/Psychiatry Program
- Wellness Centre



FVHC Emergency Services Group

Emergency services together with supporting diagnostic and treatment areas should be centralized as much as possible to shorten travel distances for staff and patients and to minimize the time it takes to deliver care to critically ill patients.

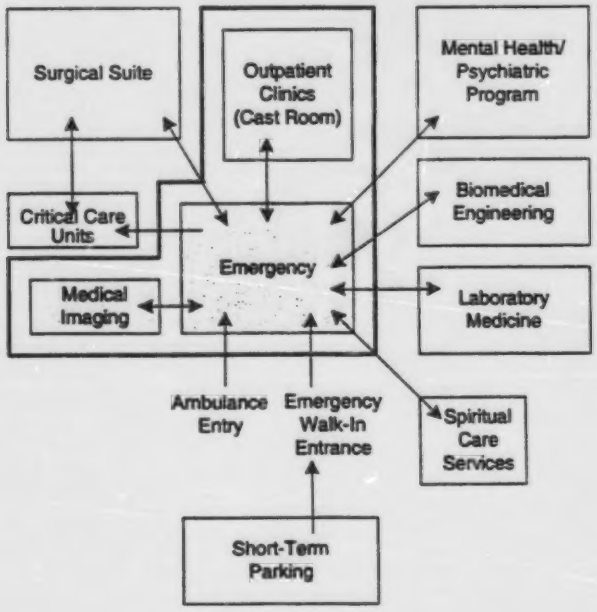
An Emergency Services Group should be developed and comprised of the following components:

High Priority Adjacency

- Emergency
- Medical Imaging
- Outpatient Clinics (Cast Room)

Lower Priority Adjacency

- Critical Care Units
- Surgical Suite
- Mental Health/Psychiatry Program
- Biomedical Engineering
- Laboratory Medicine
- Spiritual Care Services



FVHC Surgical Suite/Critical Care Group

Surgical and critical care services, together with key supporting services, should be centralized as much as possible to minimize travel distances for critically ill patients undergoing surgery and for continuity of care, on-the-spot technical back-up and efficient use of staff.

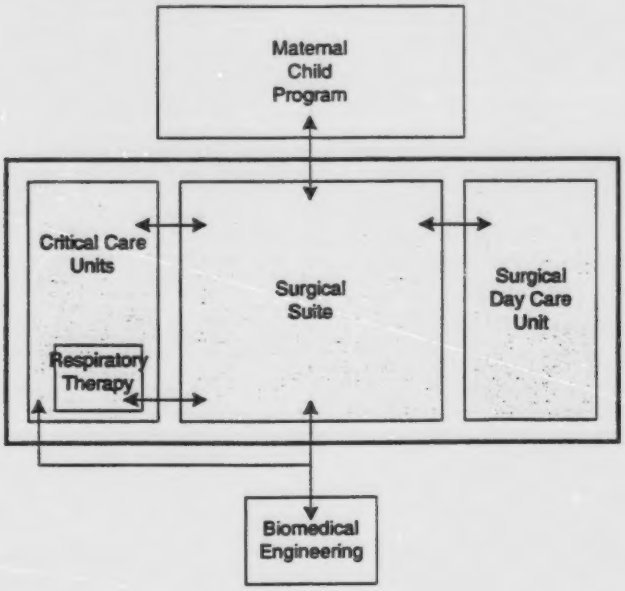
A Surgical/Critical Care Group should be developed and comprised of the following components:

<u>High Priority Adjacency</u>

- Surgical Suite
- Critical Care Unit (incl. Respiratory Therapy)
- Surgical Day Care
- Spiritual Care Services

<u>Lower Priority Adjacency</u>

- Maternal Child Program
- Biomedical Engineering



FVHC Perinatal Services Group

Perinatal services should be centralized as much as possible to provide appropriate progressive patient care, ensure implementation of a family-centred care approach, promote efficient use of resources and provide flexibility for future growth.

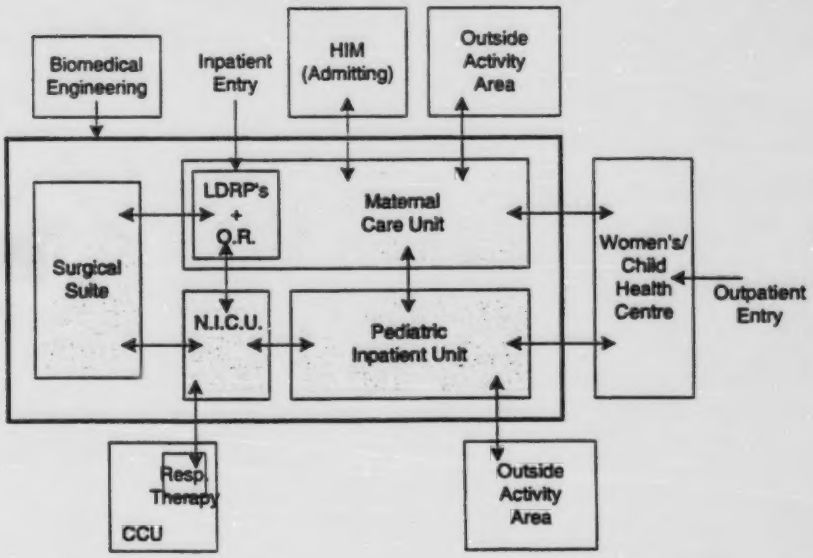
A Perinatal Services Group should be developed and comprised of the following components:

<u>High Priority Adjacency</u>

- Maternal Child Program
- Surgical Suite

<u>Lower Priority Adjacency</u>

- Women's/Child Health Centre
- Critical Care Units (Respiratory Therapy)
- Health Information Management (Admitting)
- Biomedical Engineering



FVHC Public Facilities Group

Public facilities should be centralized as much as possible to ensure orientation of patients, especially first-time visitors, and to promote a clear focus of public activity and an image of public accessibility.

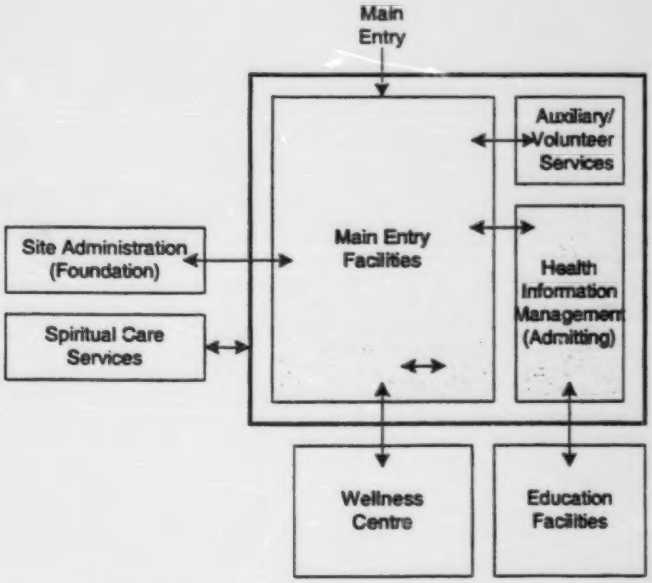
A Public Facilities Group should be developed and comprised of the following components:

High Priority Adjacency

- Main Entry Facilities
- Health Information Management (Admitting)
- Auxiliary/Volunteer Services

Lower Priority Adjacency

- Spiritual Care Services
- Wellness Centre
- Site Administration (Foundation)
- Education Facilities



FVHC Mental Health/Psychiatric Care Group

The Mental Health/Psychiatric Program group should be located on-grade in order to allow for opportunities of shared support space, shared exterior activity space, and shared direct entry.

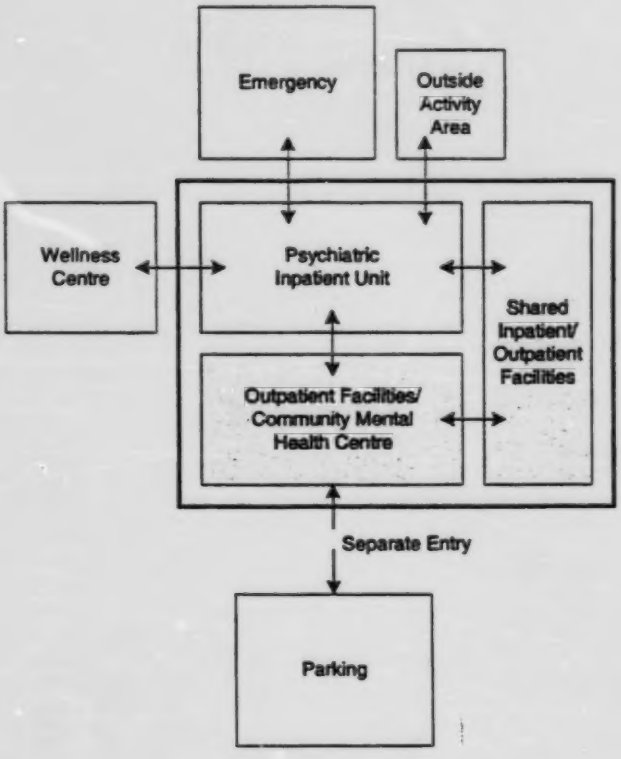
A Mental Health/Psychiatric Program group should be developed and should be comprised of the following:

<u>High Priority Adjacency</u>

- Mental Health/Psychiatric Program
- Exterior Parking and Grade Access

<u>Lower Priority Adjacency</u>

- Emergency
- Wellness Centre



Cancer Services/FVHC Group

Cancer services should be centralized as much as possible to provide appropriate progressive patient care, ensure implementation of a family-centred care approach, promote efficient use of resources and provide flexibility for future growth.

Adjacency to selected areas in the FVHC is also essential.

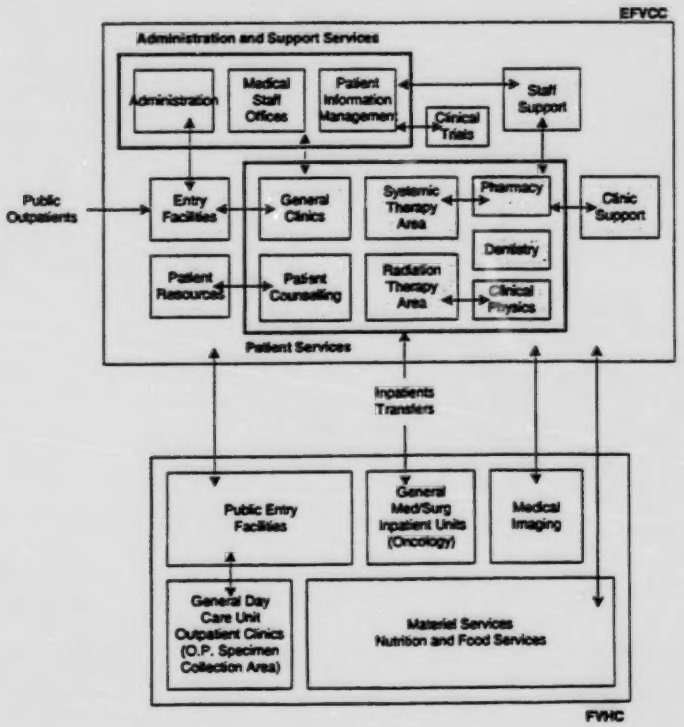
A Cancer Services/FVHC Group should be developed and comprised of the following components:

<u>High Priority Adjacency</u>

- Medical Imaging
- General Medical/Surgical Inpatient Units (Oncology area)
- General Day Care Unit
- Outpatient Clinics (O.P. Specimen Collection)
- Palliative Care Unit
- Public Entry Facilities

<u>Lower Priority Adjacency</u>

- Materiel Services
- Nutrition and Food Services
- Spiritual Care Services
- Emergency



COMPONENT PLANNING CRITERIA

Industrial/Shop Facilities generally refers to components that can be housed in warehouse-type facilities requiring large open areas, higher floor-to-ceiling heights, low levels of engineering services, housing some in-contract, non-medical equipment and requiring a minimal level of architectural detailing and finishes. These facilities typically require good access to loading docks, exterior delivery/service vehicle routes and, sometimes, to outside 'service yard' areas.

Regional/Other Facilities refers to components that are either services supporting the entire region, or that are site-specific that could be developed on-site, but possibly through alternative financial arrangements (e.g., P3).

Functional components for each Centre are presented on the following pages and each includes information under the following headings:

Scope Description provides brief information on what functions a component includes (or excludes) and the major factors determining its size. It is not intended that this description includes a listing of all individual room requirements, but rather that it identifies only those specific factors that are required to estimate preliminary space requirements.

Estimate Space Need documents the gross square meters programmed to accommodate the anticipated functions and activities of the component. These grossly calculated areas are subject to refinement through subsequent detailed facility programming review. The area in (parentheses) below the estimated area is that that was reflected in the 1994 Preliminary Design submission.

Location Priorities documents the priorities for physical relationship between the subject component and other components. These priorities are generally limited to five in number as this is considered the maximum number of relationships that an architect can consider at one time when viewing physical alternatives in three dimensions.

COMPONENT PLANNING CRITERIA

INTRODUCTION

The basic "building blocks" which will be used to physically assemble each hospital project into a cohesive whole are called FUNCTIONAL COMPONENTS. A functional component can be defined as a grouping of activities, and assigned spaces, which are related by their common mission to satisfy a specific function or operation within a hospital. A functional component may or may not be synonymous with a department since the term "department" refers to an administrative organizational structure, not to a functional planning structure. Therefore, a department may consist of one or more functional components.

The functional components are organized to reflect a number of groupings reflecting the type of facility, which will likely be required to house them, as follows:

Fraser Valley Health Centre

- A High/Medium Serviced Facilities (Post Disaster)
- B Low Serviced/Office/Retail Facilities (Post Disaster)
- C Low Serviced/Office/Retail Facilities (Non-Post Disaster)
- D Industrial/Shop Facilities (Post Disaster)
- E Industrial/Shop Facilities (Non-Post Disaster)
- F Regional/Other Facilities (Non-Post Disaster)

Eastern Fraser Valley Cancer Centre

- G High/Medium Serviced Facilities (Non-Post Disaster)
- H Low Serviced Facilities (Non-Post Disaster)

High/Medium Serviced Facilities generally refers to components requiring a high to medium level of engineering servicing (such as medical gases, enhanced ventilation and pressurization, heavy electrical servicing, etc.), housing high-tech in-contract medical equipment and requiring a high to medium level of architectural detailing and finishes.

Low Serviced Facilities generally refers to components requiring a low level of engineering services normally found in commercial office buildings or community-based medical office facilities housing little in-contract medical equipment and requiring normal (commercial) levels of architectural detailing and finishes. They typically require flexible, open space planning with relatively easily moveable partitions, good elevator and, in many cases, good public access as there is usually considerable people traffic around them.

A High/Medium Serviced Facilities (Post Disaster)

A1 General Medical/Surgical Inpatient Units
A2 Maternal Child Program
A3 Mental Health/Psychiatry Program
A4 Palliative Care Unit
A5 ICU/CCU/SSDU
A6 Emergency
A7 Surgical Suite
A8 Medical Imaging
A9 Laboratory Medicine
A10 Morgue/Autopsy
A11 Biomedical Engineering

B Low Serviced Facilities (Post Disaster)

B1 Surgical Day Care
B2 General Day Care
B3 Cardiopulmonary/Neurodiagnostics Area
B4 Pharmacy
B5 Health Information Management
B6 Volunteers/Auxiliary Services
B7 Spiritual Care Services
B8 Main Entry Facilities

C Low Serviced Facilities (Non-Post Disaster)

C1 Wellness Centre (incl. Diabetes Education)
C2 Ambulatory Care Centre
C3 Pre-Admission Clinic
C4 Rehabilitation Services
C5 Site Administration
C6 Education Facilities
C7 Renal Dialysis Unit

D Industrial/Shop Facilities (Post Disaster)

D1 Nutrition and Food Services
D2 Materiel Services
D3 Ambulance Station

E Industrial/Shop Facilities (Non-Post Disaster)

E1 Plant Services
E2 Linen/Housekeeping Services

F Regional/Other Facilities (Non-Post Disaster)

F1 Regional Administration
F2 Regional Materiel Services (Warehouse)
F3 Child Day Care Facility

FVHC

FRASER VALLEY HEALTH CENTRE COMPONENT PROGRAMS

The following tables present the Master Program for the functional components to be incorporated into the new Fraser Valley Health Centre.

A HIGH/MEDIUM SERVICED FACILITIES (POST DISASTER)

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
A1 General Medical/ Surgical Inpatient Units	• 168 beds serving medical, surgical, oncology and telemetry patients with 42 private rooms and 63 semi-private rooms planned in 4-32 bed units and 1-40 bed unit with care sub-units of 8 beds with some to support specific programs such as oncology, rehabilitation, geriatric assessment, etc. and shared support areas for groupings of 80-90 beds • Including 3 offices for social workers, 2 offices for dietitians **Total:**	**5 735** (7 480.4)	1. Surgical Suite 2. Critical Care Units 3. Diagnostic and Treatment Services 4. Support Services *Note: The total area to be increased by 400 CGSM to accommodate the 6-bed Surgical Step-Down Unit transferred from A5.*
A2 Maternal Child Program	**Pediatric Inpatient Unit** • 20 beds organized as 8 singles and 6 doubles • all rooms with parent sleep-in accommodation • 4 singles to provide isolation • 1 double to be monitored	885 (875.4)	1. Outside Activity Area 2. Maternal Care Unit 3. Neonatal ICU
	Maternal Care Unit • 2,200 future annual deliveries (2015) • 14 inpatient beds for ante/ postpartum and 18 LDRP's configured as private rooms, each room including ensuite toilet and shower/Jacuzzi tub, family accommodation and equipment storage • 1 operating/delivery room for high risk and C-section deliveries, plus a recovery area • Includes a triage/pre-admission area	2 738 (2 245.6)	1. Surgical Suite 2. Neonatal ICU 3. 24-Hour Entry 4. Outside Activity Area

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
	• Includes 1 office for social worker • Includes fetal assessment/ antepartum clinics supporting 6,000 ultrasounds and visits		
	Women's/Child Health Centre • Women's health clinic/counselling facilities supporting 4,000 procedures/ other visits annually, including the regional sexual assault program • Child health clinic/counselling facilities supporting 3,500 visits annually	775 (84)	1. OP Entry 2. Outpatient Clinics 3. Diagnostic & Treatment Services *Note: This area to be combined with C2 Ambulatory Care Centre as a consolidated ambulatory care centre.*
	Neonatal Intensive Care Unit • 10 bassinets/isolettes Level II Nursery, including isolation rooms for 4 bassinets/ isolettes • 6 bassinets for transition/observation baby nursery	289 (337.1)	1. Maternal Care Unit 2. Critical Care Units (Respiratory Therapy) 3. Surgical Suite 4. Medical Imaging
	Total:	**4 687** (3 542.1)	
A3 Mental Health/ Psychiatry Program	**Psychiatric Inpatient Unit** • 36 beds organized into 3 clusters of 4 ICU beds, 4 child & adolescent beds and 28 adult beds • ECT treatment/recovery room (4 recovering patients) • Separate child and adolescent areas, including playroom w/observation area, offices/workstations, care desk, time-out/observation room, lounge/ activity rooms, dining/activity room • See Shared Space for group rooms	1 554 (1 667.7)	1. Outdoor Activity Areas 2. Outpatient Facilities/ Community Mental Health Centre 3. Emergency 4. Rehabilitation Services
	Outpatient Facilities/Community Mental Health Centre Dual Diagnosis, Adult Psychiatric Outpatient & Day Treatment Program supporting 3,000 attendances • Reception w/waiting area (10 to 12 seats) • Offices/workstations (8)	444 (567.6)	1. Parking and Separate Entry 2. Psychiatric Inpatient Unit

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
	• Patient activity room • Patient lounge/congregation area w/ kitchenette • Patient dining (12) See Shared Space for group rooms		
	ASTAT, ACSS, ACO, CLS, CRP, Geriatric, Vocational, Psychiatrists • Offices/workstations (22 people) including coordinators, OTs, social workers, case managers, therapists, clinicians, psychiatrists, etc. • Medication room w/ pharmacy storage • Family reading room space • See Shared Space for group rooms	545 (0)	*Note: This area to be eliminated from project and retained in the community for improved patient access and milieu.*
	Administration • Office/workstation (manager/ director) • Offices/workstations (2 @ secretarial)		
	Ministry for Children & Families • Assumes these facilities will not be located in the proposed centralized Mental Health Centre facility		
	Shared Inpatient/Outpatient Facilities • Patient access kitchens (2) • Large group room (@ 50 seats) • Medium group room (2 @ 30 seats) • Small group room (4 @ 12 seats) • Family therapy rooms, large and small (4) • Family interview rooms (4) • Observation rooms to family therapy/group rooms (2) • Meeting/conference rooms (1 @ 16 seats, 2 @ 8 seats) • Central files area (app. 45 lineal ft.) • Self-testing computer station area (patients, staff)	834 (0)	1. Psychiatric Inpatient Unit 2. Outpatient Facilities/ Community Mental Health Centre *Note: This area to be reduced by 255 CGSM as share of Community Mental Health to be retained off-site.*
	Total:	**3 377** (2 235.3)	

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
A4 Palliative Care Unit	• 10-bed acute inpatient unit with 8 private, 1 semi-private beds **Total:**	**600** (929.6)	1. Outside Garden Area 2. Main Entry Facilities 3. Spiritual Services 4. View of Mt. Baker
A5 Critical Care Units	• 8 intensive care beds, 10 coronary care beds and 6 surgical step-down beds, all in single closed cubicles, each sub-unit with care station and immediate support areas • Shared support area including: – Respiratory Therapy area supporting 33,600 IP treatments and blood gas tests – Biomedical Engineering workroom – Treatment/procedure room – Equipment storage – Visitor support area **Total:**	**1 600** (846.1)	1. Med/Surg Inpatient Unit (Telemetry) 2. Surgical Suite 3. Emergency 4. Medical Imaging *Note: This area to be reduced by 400 CGSM for the 6-bed SSDU which is being transferred to A1.*
A6 Emergency	• 60,000 annual visits assuming 10% emergent, 40% urgent, 50% non-urgent/fast track • Total of 36 patient positions incl. 2 peds, 2 psych, 2 trauma, 14 acute, 12 fast-track, 6 clinical decision • Area for ambulance and paramedic support teams • Security/police workstations • Includes 1 office for social worker • Includes special exam rooms for gyne, eye, ear **Total:**	**1 475** (1 284.1)	1. Ambulance Entrance 2. Medical Imaging 3. Outpatient Clinics (Cast Room) 4. Women's/Child Health Centre (Sexual Assault Room) 5. Critical Care Units
A7 Surgical Suite	• Future workload capacity of 14,000 cases, 9,100 OP and 4,900 IP, incl. up to 400 pacemaker implants • 6 general, 1 cystoscopy and 2 special operating rooms		1. Surgical Day Care 2. ICU/CCU/SSDU 3. Inpatient Units (Surgical) 4. Emergency

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
	• PACU with 18 positions, 1 for isolation • 3 OR booking staff **Total:**	**1 965** (1 922.8)	
A8 **Medical Imaging (incl. Nuclear Medicine)**	Diagnostic Imaging • A total of 80,000-90,000 exams per year including: – 47,000 Radiography exams - 4 rms – 7,000 Fluoroscopy exams- 2 rms – 9,000 CT exams - 2 room – 11,600 Ultrasound exams – 4 rms – 3,400 Echocardiography exams – 2 rooms – 500 Specials (angiography) -1 rm – 3,000 MRI tests – 1 MRI suite (fixed unit) – 9,000 Nuclear Med. Exams - 4 rms • Assumes digital imaging and PACs • Excludes space for portable equipment used in, but not limited to, 1 ICU/CCU, 1 General Day Care, 1 Emergency and 1 Surgical Suite • 7 years active film storage (to be phased out in longer term future) • Post-procedure recovery area w/6 stretcher positions & nurse station **Total:**	**2 200** (1 801.5)	1. Emergency 2. Main Outpatient Entry 3. Ambulatory Care (General Day Care Unit) 4. ICU/CCU 5. Inpatient Units *Note: The post-procedure recovery area to be transferred to B2 with no overall space reduction anticipated.*
A9 **Laboratory Medicine**	Clinical Laboratory • Future annual units of 5.5 million (including approximately 337,000 units for Cancer Centre patients) • Core laboratory for accessioning/ testing/ specimen preparation area, data processing and laboratory routine procedures laboratories Includes: • Clinical Pathology – Chemistry – Hemalotogry		1. Emergency 2. Critical Care Units 3. Outpatient Clinics (Specimen Collection Centre) 4. Surgical Suite (Frozen Section Lab) 5. Inpatient Units

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
	– Blood Bank – Immunology • Anatomical Pathology – Surgical Pathology – Cytology – Histology • Excludes Morgue & Autopsy area (see below), Microbiology (see CGH) and Specimen Collection Centre in Outpatient Clinics **Total:**	**1 500** (1 425)	*Note: This area reduced by 250 m² to reflect a change in role with all Microbiology to be consolidated at CGH.*
A10 **Morgue/Autopsy**	Morgue & Autopsy • 525 annual deaths with 3-5% autopsy rate for 240 annual autopsies • Autopsy room with 2 positions and cold storage/holding room, 16 bodies • Specimen preparation area • Support area including family viewing room, staff change and shower area **Total:**	**190** (216.2)	1. Hearse Access Area 2. Laboratory
A11 **Biomedical Engineering**	• Supplies storage • Shops including precision mechanical/instrument, general biomedical, mechanical • Workbench and rack space to accommodate 7 technicians and engineers • Offices for administrative staff and chief technologists / engineers • Excludes satellite repair and maintenance facilities in Renal Dialysis Unit • General/shared facilities incl. education/demonstration room (8 to 10 seats) **Total:**	**194** (101.0)	1. Critical Care Units 2. Maternal Child Program (NICU) 3. Surgical Suite 4. Renal Dialysis Unit

B LOW SERVICED FACILITIES (POST DISASTER)

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
B1 Surgical Day Care/Same Day Admit	• 9,100 SDC cases per year • Day surgery prep/recovery area w/ 24-26 stretcher beds/recliner chairs • 16-20 chairs/recliners for Same Day Admit/final stage SDC recovery **Total:**	**760** (432.8)	1. Surgical Suite 2. OP Entry 3. Medical Imaging
B2 General Day Care Unit	• Estimated total workload and procedure rooms as follows: – 2,400 minor surgical/medical procedures – 1,035 colonoscopies – 200 bronchoscopies, – 1,500 G.I. endoscopies – 100 flexible sigmoidoscopies – 3,000 cystoscopies – 300 blood transfusion visits – 400 anaesthetic clinic visits for pain and symptom management – 3,000 IV therapy procedures requiring: – 2 minor procedure rooms – 3 endoscopy rooms – 1 bronchoscopy room – 1 cystoscopy room – 1 eye procedure room – 10 stretchers, plus 6 recliners general day care/ treatment recovery area • Excludes recovery of 1,300 imaging patients (see Medical Imaging) **Total:**	**800** (715.6)	1. Main O.P. Entry 2. Medical Imaging 3. Laboratory *Note: Will include post-procedure recovery from Medical Imaging with no anticipated overall space reduction.*

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
B3 Cardiopulmonary/ Neurodiagnostic Services	• Estimated workload and procedure rooms as follows: Cardiology Diagnostics: – 22,800 ECG exams – 600 holter monitor exams – 300 pacemaker clinic visits – 3,400 stress tests Pulmonary Diagnostics: – 6,000 PF assessments – 200 stress tests Neurology Diagnostics: – 1,000 EEG exams – 300 Evoked Response tests – 200 EMG tests Vascular Diagnostics: – 2,200 stress tests requiring: – 2 ECG rooms – 1 holter monitoring room – 1, 2-position stress testing room, plus 1, 1-position room – 1 pulmonary testing room – 1 evoked potential room – 1 EEG room – 1 EMG room **Total:**	**493** (357.4)	1. Main Entry 2. Pre-Admission Clinic 3. Outpatient Clinics 4. Emergency
B4 Pharmacy	• 2.8 million unit doses/year • Unit dose distribution for all acute and long term care medications • Assumes regional sterile manufacturing located at FVHC site, incl. a total of 120,000 IV preps • Administration / clinical pharmacy / teaching area including offices, conference/drug information library, counselling and research offices • Includes 5 regional admin. offices • Main pharmacy storage located in this component • Excludes service to BCCA ambulatory patients		1. Materiel Services (Receiving/Shipping) 2. Inpatient Units 3. Outpatient Areas

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
	• Excludes clinical offices in: – ICU/CCU – Inpatient Units – EFVCC **Total:**	**650** (508.4)	
B5 Health Information Management	**Admitting/Discharge** • 2 offices and 3 admit cubicles	90 (204.2)	1. Main Entrance 2. Emergency 3. Outpatient Clinic 4. Inpatient Units
	Health Information Systems • Central computer/server room (to be located with PBX, telephone equipment room) • Administrative area with 6 offices/ workstations for senior staff, meeting room • Support areas for equipment staging, storage and testing/ repair • Training laboratory with 20 stations • Excludes 23 offices located in Regional Administration • Excludes switchboard/regional call centre and help desk located in Regional Administration	318 (259.0)	
	Health Records • 6 years active health records storage (to be phased out in longer term future) • 24 workstations for technical/ clerical/transcription staff • Assumes 10 transcription workstations off-site **Total:**	430 (433.9) **838** (897.1)	
B6 Volunteers/ Auxiliary Services	• 1 volunteer coordinator • Includes workroom/coat room for 20-25 persons • Excludes gift shop (see Main Entry) **Total:**	**102** (190.2)	1. Main Entry Facilities

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
B7 Spiritual Care Services	• Office for the Coordinator • Visiting clergy and volunteer sign-in/ workroom • Conference/multipurpose room used primarily for chaplaincy training • Spiritual multipurpose room with seating for 15 **Total:**	**90** (90)	1. ICU/CCU 2. Inpatient Units 3. Emergency 4. Main Entrance
B8 Main Entry Facilities	• Waiting/display area w/25 seats • Information kiosk (for volunteers) • Reception/cashier counter and vault (for HIM) • Offices for the Hospital Foundation (1) • Café with servery, cashier and seating for 50 • Other undesignated retail functions (e.g., coffee wagon service, book service, dry cleaning, ATM machine, vending machine, lottery booth, hair salon) • Red Cross loan area • Gift shop **Total:**	**400** (0)	1. Main Entrance 2. Elevators 3. HIM (Admitting) 4. Pre-Admission Clinic 5. Outpatient Clinics

C LOW SERVICED FACILITIES (NON-POST DISASTER)

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
C1 Wellness Centre	• A multidisciplinary, integrated, care centre promoting wellness, disease prevention, and risk reduction, including diabetes education, stroke prevention, cardiac rehab, employee wellness through fitness, etc., plus various EFVCC programs, including complementary therapies, hereditary program, community-based epidemiology, education program on prevention, etc., and a Cultural Centre **Total:**	**1 207** (168.2)	1. Parking 2. EFVCC *Note: This area reduced by 607 CGSM and is to be combined with C2 Ambulatory Care Centre as a consolidated ambulatory care centre.*
C2 Ambulatory Care Centre	• Overall estimated workload of approximately 20,000 annual visits • Ambulatory Care administration including main reception, entry area and registration, general patient waiting area, offices for Director, Manager and other allied health staff, multi-purpose room • Outpatient Specimen Collection Centre • Treatment/consultation, office/ workroom space incl. 8 shared exam/interview rooms for clinics & services in a "storefront" venue supporting: – General Clinics (all subspecialities) – Cast Clinic – HIV/Aids Clinic – Enterostomal Therapy – Diatetic counselling **Total:**	**510** (833.3)	1. Main Outpatient Entry 2. Medical Imaging 3. Laboratory *Note: This area to be increased by 775 CGSM for Women's/Child Health Centre and 600 CGSM for Wellness Centre as a consolidated ambulatory care centre.*

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
C3 Pre-Admission Clinic	• Up to 9,800 visits annually **Total:**	**348** (115)	1. Medical Imaging 2. Cardiopulmonary/ Neurodiagnostics 3. Pharmacy 4. Laboratory *Note: This area to be reduced by 48 CGSM to reflect a slight reduction in overall workload.*
C4 Rehabilitation Services	• Assumes a workload of 32,000 PT/OT attendances, 22,000 IP attendances and 10,000 OP attendances, _?_ SLP attendances • Assumes most IP work provided centrally • Includes treatment cubicles (8) and gym • Incl. hubbard and extremity tanks • Incl. ADL kitchen, bathroom and splinting area **Total:**	**400** (572.3)	1. General Medical/ Surgical Inpatient Units 2. Main Outpatient Entry
C5 Site Administration	• Senior staff (22 offices), support staff and reception • Shared support areas including board room, meeting/conference room & storage • Physician facilities • Occupational health offices, exam rooms/ training room **Total:**	**570** (1 969.6)	1. Main Pedestrian Corridor 2. Main Lobby and Retail 3. Education Resources
C6 Education Facilities	• Instruction space including 1 @ 150 seat classroom, subdivisable into 3 rooms • Sound/projection/media room • Foyer for 75 people • Health Sciences Library **Total:**	**470** (0)	1. Wellness Centre 2. Nutrition & Food Services (Cafeteria) 3. Main Lobby and Retail 4. Main Traffic Corridor

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
C7 Renal Dialysis Unit	• 90 patients requiring 15 treatment stations **Total:**	**680** (0)	1. Outpatient Entry 2. Other Ambulatory Areas 3. Materiel Services (Stores)

D INDUSTRIAL/SHOP FACILITIES (POST DISASTER)

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
D1 Nutrition and Food Services	• Total 182,000 meal days • Cook-serve production kitchen sized to also accommodate food preparation and distribution for off-site ECUs (55,000 meal days) and the on-site EFVCC (7,900 meal days) • Centralized dishwashing • Cafeteria and private dining room • Nutrition Services supervisory staff and dietician offices • Assumed architects Preliminary Design Area **Total:**	**2 127** (2 127.3)	1. Materiel Services 2. Inpatient Units 3. Central Education
D2 Materiel Services	**Receiving & Stores** • Bulk receiving including loading dock and breakdown area, garbage handling and recycle area • Stores area including data entry, cart staging area, safety/disaster stock, daily food supplies, active equipment storage, flammable storage • Mail services, porter dispatch • Excludes bulk storage and Administration/Purchasing function located at off-site warehouse	550 (783.4)	1. Nutrition & Food Services 2. Pharmacy 3. Inpatient Units

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
	Central Processing Department • Decontamination area including cart wash area and soiled linen holding • Packaging and assembly area • Sterilization area including sterile cart marshalling area • Sterile stores and case cart marshalling area • Staff offices and locker rooms • Carousels • Case cart staging (O.R. and maternity) • Excludes linen packaging (laundry) **Total:**	790 (789.2) **1 340** (1 572.6)	1. Surgical Suite (direct internal to sterile core) 2. Maternal Child Program (direct internal to birthing area)
D3 **Ambulance Station**	• Includes 5 ambulance bays and 3 bedrooms as per MOH guidelines **Total:**	**460** (0)	1. Main Street Access

E INDUSTRIAL/SHOP FACILITIES (NON-POST DISASTER)

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
E1 **Plant Services**	• Future building gross area of 54,000 to 55,000 BGSM (incl. EFVCC) • Shop/work areas including carpentry, painting, electrical, plumbing, maintenance engineering, lathe/machinist area, HVAC area • Support area including CADD files, catalogue room • Grounds maintenance storage and shop **Total:**	**440** (388.6)	1. Material Management (Receiving) 2. Main Service Corridor and Goods Elevator 3. Medical Imaging (for Biomedical Engineering)

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
E2 Linen/ Housekeeping Services	Laundry • Off-site laundry to support acute beds generating approximately 1.3 million kgs of laundry annually • On-site linen service to receive, hold and partially assemble exchange carts for distribution and hold soiled linen for return Housekeeping • Future capacity of 300 on-site beds • Future building area of 54,000 to 55,000 BGSM (incl. EVFCC) • Bulk storage of equipment, carts and supplies • Excludes satellite Housekeeping rooms located throughout facility **Total:**	**455** (440.5)	1. Main Service Corridor 2. Material Management 3. Centre Staff Facilities

F REGIONAL/OTHER FACILITIES (NON-POST DISASTER)

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
F1 Regional Administration	Switchboard/Call Centre • Regional switchboard/call centre with 10 workstations • Systems monitors including fire alarms, medical gases, doctors registry, nurse call Administration Offices • Offices for service staff (total of 109); finance (12 offices, plus 24 clerks), executive admin (9 offices, plus 6 secretaries), human resources (20 offices, plus 15 clerk workstations), H.I.M. (23 offices/ workstations) • Regional files storage **Total:**	**1 866** (0)	1. 2. 3.

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
F2 Regional Materiel Services (Warehouse)	• Warehouse – 1 500 nsm, incl. equipment storage • Assume 6 metre high ceiling with carousel system • 3 docks w/levellers, compactor • Materiel Services reception and offices/workstations (7) • Purchasing offices/workstations (10) • File room/catalogue library • Meeting rooms (2) **Total:**	**3 500** (0)	1. Regional Administration (Finance) 2. 3.
F3 Child Day Care Facility	• Assume provision for a total of 49 children consisting of 25 pre-school, 12 toddlers and 12 infants • Need for a minimum of 318 m^2 of secured outdoor space **Total:**	**200** (0)	1. Parking & Separate Entry 2. Outdoor Play Area 3.

G High/Medium Serviced Facilities (Non-Post Disaster)

G1 Radiation Therapy Area
G2 Clinical Physics
G3 Dentistry

H Low Serviced Facilities (Non-Post Disaster)

H1 Entry Facilities
H2 Patient Resources
H3 Patient Counselling
H4 General Clinic Area
H5 Systemic Therapy Area
H6 Pharmacy
H7 Clinical Trials Area
H8 Medical Staff Offices
H9 Patient Information Management
H10 Administration
H11 Staff Support
H12 Clinic Support

EFVCC

EASTERN FRASER VALLEY CANCER CENTRE COMPONENT PROGRAMS

The following tables present the Master Program for the functional components to be incorporated into the new Eastern Fraser Valley Cancer Centre.

G HIGH/MEDIUM SERVICED FACILITIES (NON-POST DISASTER)

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
G1 Radiation Therapy Area	• RT courses equal 60% of Cancer cases or 60% of 15,700 equals 9420 RT courses • 9420 RT courses and 197,820 fractions for Lower Mainland Cancer Centres in 2015 • 9,000 fractions per 10 hour day • 36,000 fractions at EFVCC for 4 vaults • 180 fractions per day per vault RT Examination and Consultation: includes 3 exam rooms, 2 stretcher exam rooms, and rooms for mark-up, small procedures, and treatment liaison. RT Treatment Activity and Support Areas: includes 4 vaults, and all support, backup cooling system, and patient change and waiting. RT Administration includes offices and clerical support, student areas and teleconference room Simulator Area includes a simulator and a simulator with CT scanner plus support areas **Total:**	**1,850**	1. Clinical Physics 2. Entry Facilities 3. Dentistry
G2 Clinical Physics	• New mould room patients is 35% of 9420 courses equals 3611 • Treatment planning cases equals 50% of 9420 courses equals 4410 Physics/Dosimetry includes offices, treatment planning. computer lab, dosimeter workroom, electronic lab. and patient measuring. Mould Room includes patient change/shower, mould room and vacuum forming and casting. **Total:**	**660**	1. Radiation Therapy 2. Clinic Support

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
G3 Dentistry	• _____ number of exams per year • • Dentistry includes patient waiting examining chair and workroom/storage **Total:**	**25**	1. Radiotherapy 2. Entry Facilities

H LOW SERVICED FACILITIES (NON-POST DISASTER)

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
H1 Entry Facilities	• 36,000 (visits) RT fractions • 6,400 visits in chemotherapy • 17,000 follow-up visits Entry Facilities includes lobby public washrooms and telephone, reception and information desk, wheelchair alcove, information kiosk, general conference room, and waiting area. **Total:**	**160**	1. General Clinics 2. Systemic Therapy 3. Radiotherapy
H2 Patient Resources	• 2,800 new patients annually Patient Resources includes volunteer drivers, information desk, workroom, break area, storage, washroom/coats, quiet room, patient support group rooms, and a resource centre **Total:**	**180**	1. Entry Facilities 2. Patient Counselling 3. General Clinics
H3 Patient Counselling	• _____ annual visits to social workers • _____ annual visits to nutrition/diet Patient Counselling includes social workers (4), clerks waiting, meeting room, nutritionists (2),		1. Entry Facilities 2. Patient Resources 3. General Clinics

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
	other counsellors (5), storage and workroom. **Total:**	**200**	
H4 General Clinic Area	• 2,800 new patient annually • 8,000 systemic follow-up visits • 8,800 RT follow-up visits General Clinic includes 2 pods of clinics with total of 16 exam rooms, 4 stretcher exam rooms, ENT room, 2 liaison, 4 patient counselling rooms, and support spaces **Total:**	**700**	1. Entry Facilities 2. Systemic Therapy 3. Patient Counselling
H5 Systemic Therapy Area	• 480 new courses annually • 6,400 chemotherapy visits annually Systemic therapy includes waiting, clerks, washrooms, IV chairs (10), stretcher bays (2), and support areas **Total:**	**220**	1. Entry Facilities 2. General Clinics 3. Medical Staff
H6 Pharmacy	• 6,400 chemotherapy patient visits • 18,000 prescriptions completed Pharmacy includes offices, dispensing, compounding, preparation and packaging, and IV preparation, and support areas. **Total:**	**130**	1. Systemic Therapy 2. General Clinics
H7 Clinical Trials Office	Clinical Trials includes waiting area, coordinators (6) and drug storage areas. **Total:**	**80**	1. General Clinics 2. Entry 3. Patient Information Management
H8 Medical Staff Offices	• _____ patients per medical staff Medical Staff Offices includes 28 staff		1. General Clinics 2. Radiation Therapy 3. Systemic Therapy

Component	Scope Description	Estimated Space Need CGSM	Location Priorities
	offices, multi-purpose conference room, clerical staff, and support areas **Total:**	**540**	
H9 Patient Information Management	• 2,800 new patient annually • 8,000 systemic follow-up visits • 8,800 RT follow-up visits Patient Information Management include manager, technical services, clerical services and support space. **Total:**	**300**	1. General Clinics 2. Clinical Trials
H10 Administration	Administration includes site clinical director, clerks, finance clerk, HR office, information systems, infection control/occup. health, quality improvement/education, process leaders, clerks, and Foundation office. **Total:**	**180**	1 Medical Staff Offices 2 Patient Information Management
H11 Staff Support	Staff Support includes locker rooms, lounge/lunch room. **Total:**	**125**	1 Medical Staff Offices 2 Patient Information Management
H12 Clinic Support	Clinic Support includes supply and equipment storage, housekeeping and communication rooms. **Total:**	**125**	1. Medical Staff Offices 2. Patient Information Management

3 PHYSICAL PLAN REVIEW

INTRODUCTION

This document takes the functional planning information from the Master Program, and in combination with the results of the Modelling Session conducted on September 14, 2000 and the major site constraints, summarizes planning diagrams which help inform the capital cost estimating process. It should be understood that the functional relationships and siting diagrams in this document only indicate one conceptual option and that much more detailed work will need to be undertaken in parallel with, and following completion of, the detailed functional programming. This document is arranged into several sub-sections as follows:

- Site Context & Zoning
- Site Constraints & Opportunities
- Planning Objectives
- Physical Planning Terms of Reference
- Modelling Session Process
- Description of Planning Diagrams

SITE CONTEXT & ZONING

Legal description: Lot 152 Except: Part subdivided by Plan76693; Section 16 Township 16 NWD Plan 50761

Site Area: 10.41 ha (25.73 acres) 104,085.645 sq. meters

Zoning: Civic Institutional Zone (P-1); City of Abbotsford

Surrounding Land Use:

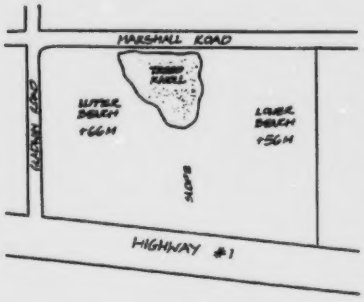
North – Townhouses/ Menno Hospital (P-2 Institutional)
South – Highway One
East – Private Care Facility (P-2 Institutional)/ Residential (RS-1 Urban Residential)
West – Highland Park/ Residential (RS-1 Urban Residential)

Maximum FSR: 5.0/ 520,428 sq. meters.

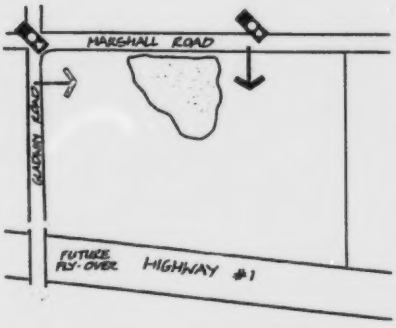
Maximum Height: 30 meters (Development Variance Permit No. 303 increased this height restriction to 31.5 meters for the Nursing Tower and 35.3 meters for elevator penthouses in December 1994. This variance permit expired in December 1999).

View from eastern portion of site looking west

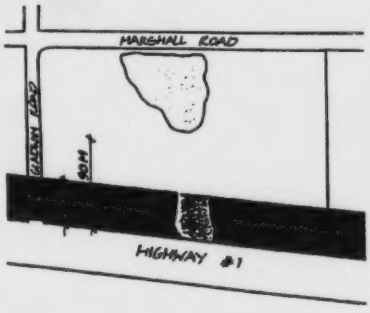
SITE CONSTRAINTS/OPPORTUNITIES



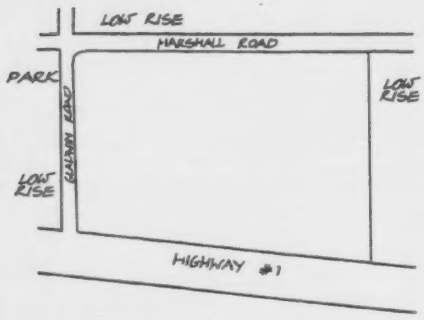
Major topographical features – The site is characterized by two distinct benches in an east-west orientation separated by a 10 meter slope between the two benches. The upper bench is approximately at the 66m elevation and the lower bench is generally at the 56m elevation. A heavily treed knoll with a mixture of evergreen and deciduous trees is located in the northeast corner of the upper bench with the peak of the knoll at 77m elevation.



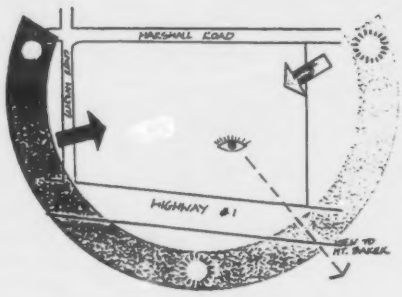
Vehicular Access & Relationships – An agreement was reached with the Corporation of the District of Matsqui in the previous project on this site for two access points from the bordering roadways. One access point directly across from the entry driveway to the Menno Hospital on Marshall Road and the other off Gladwin Road approximately 1/3 of the way from the Gladwin Road/ Marshall Road intersection. It was intended that signaled intersections and left turn lanes would be added at the Marshall Road access point and at the Gladwin Road/ Marshall Road intersection. The Ministry of Highways is allowing for the potential addition of a Gladwin Road overpass over Highway #1 in the future which dictates the Gladwin Road access point.



Impact from Highway #1 – the major impact from Highway #1 is the noise from highway traffic. A previous traffic noise study conducted on this site indicated limited noise impact beyond 90m from the highway and that no noise sensitive occupancies from the hospital should be located within 45m from the highway without acoustical measures implemented on the building envelope.



Neighbourhood Sensitivity – The neighboring properties on the north, east, and west boundaries of the site generally consist of single family residences, low-rise multifamily residential properties, or low-rise seniors or multi-level care facilities. Development on this site needs to acknowledge the low rise nature of the neighbourhood and set back mid to high rise portions of the proposed development away from the property lines.



Solar Orientation/ Prevailing Wind Conditions/ Dominant Views – The long dimension of the site runs directly in the east/west direction with the south exposure overlooking Highway #1. Prevailing wind conditions during the summer months is from the southwest and during the winter months from the northeast. On clear days the dominant view is to the southeast to Mount Baker.

Geotechnical Characteristics – The site generally consists of granular material which is suitable for relocation as fill during construction. There is no water table issues which should affect the development of the site, however, the 100 year flood plain level is at 55.85m, which precludes any floor level in the proposed development being located below the 56m level.

PLANNING OBJECTIVES

The following planning objectives were identified during the Modelling Session held on September 14, 2000.

1. To develop a facility which will support the Region's health needs as projected for the next 15 years with flexibility for the longer term future.
2. To develop an operationally efficient facility.
3. To develop a user-friendly, culturally sensitive, and non-institutional healing environment.
4. To minimize project capital costs.
5. To capitilize on the new site and it's positive features.
6. To initiate FVHC/EFVCC construction in the fall of 2001 and to complete the project in 2005.

PHYSICAL PLANNING TERMS OF REFERENCE

1. Block schematic planning will be based on the Program Parameters (dated August 28, 2000) and resultant Master Program (dated September 12, 2000).
2. Planning will assume use of any part of the site which will best serve the functional needs of the FVHC/EFVCC facilities.
3. Planning will be based on the assumption that a single power plant or energy centre will serve the needs of both the FVHC and EFVCC, and possibly other future site occupants.
4. Planning will assume that there will be no cash flow constraints that would necessitate a phased construction program.
5. Interstitial mechanical floors can be considered over/under components requiring heavy engineering servicing and anticipated frequent technological clearage.
6. Structured parking should be provided in the future development of the site to:
   - Meet future parking needs;
   - Maximize non-vehicular open or 'green' space on the site, or reserve for other developments;
   - Assist in the consolidation of points of entry to the site and buildings.
7. Due to potentially different sources of funding (capital and/or operating), and/or different time frames and procedures for development, the following functionally essential components may be considered in the plan for physically independent development from the main FVHC

or EFVCC structures:

- Child Day Care Centre
- Regional Administration
- Regional Materiel Services (Warehouse)
- Ambulance Station

All other components/activities, including parking, can be fully integrated into the main health campus.

8. Planning should allow for future development of other health related activities on site, e.g. medical office building(s), etc.
9. Planning will be sensitive to site boundaries e.g. adjacency to residential neighbourhoods, park, highway noise, etc.
10. Planning should retain as much of the existing trees on site as possible, with particular emphasis on the knoll.

MODELLING PROCESS

A Modelling Session was conducted at the existing M.S.A. General Hospital on September 14, 2000 in an effort to explore and confirm the initial functional relationships outlined in the Master Program and to assist the architectural design team in preparing planning diagrams. Three separate sessions were held lasting approximately two hours each with users representing the following program groups:

- Workshop #1 – Inpatient Services Group
- Workshop #2 – Diagnostic & Treatment Group
- Workshop #3 – Support and Administration Services Group

Representatives from the B.C. Cancer Agency were present at all three workshop sessions. In addition, representatives from the FVHR, BCBC, The RPG Partnership, Architectura, and Stantec Architecture Ltd. were in attendance.

September 14, 2000 Modelling Session

Each workshop began with a brief introduction of the program parameters, master program information, planning objectives, physical planning terms of reference, and the site description and constraints for this project. A hand-out booklet containing the key information covered in the introduction was issued to each attendee.

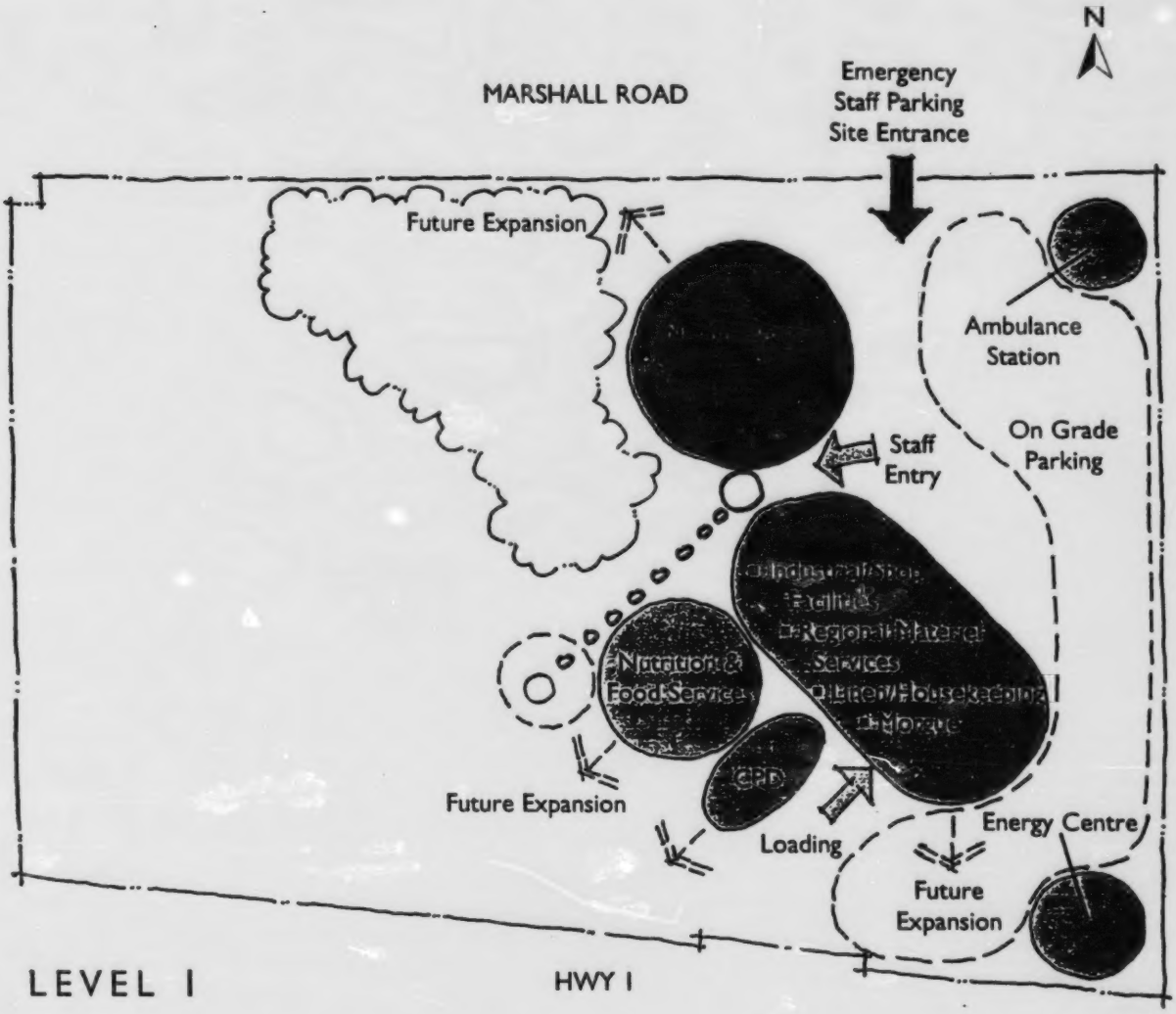
Following the introduction the attendees were asked to assemble around a four tiered 'gaming' board where the programming and design consultants had pre-arranged the program components in a configuration which responded to the unique site constraints and the master program relationships. After an explanation of this pre-arranged 'game', the attendees were encouraged to review, discuss, and alter the program components on the gaming boards to better reflect their preferred relationship to other program components. The specific relationships were refined at each subsequent workshop and the final 'game' was recorded for the future use of the program and design team.

In addition to the gaming board, a site model with coloured program modelling chips was used to construct rough massing models, which in turn, used the relationship data being produced on the adjacent gaming board. The combination of both of these different but related modelling venues suggested some very distinct master planning directions, which were subsequently translated by the design team into relationship planning diagrams and sections.

DESCRIPTION OF PLANNING DIAGRAMS

Subsequent to the Modelling Session, the design team analyzed the modelling information and developed planning diagrams which follow this section. In summary, the key functional relationships and siting directions suggested by the planning diagrams are as follows:

- The Main Entry, Outpatient Services, Administration, and EFVCC components located on the upper bench with vehicular access coming from the Gladwin Road access point.
- The Emergency entrance accessed from the Marshall Road access point.
- Service vehicle access from Gladwin Road or from Marshall Road with an on-site service road connecting the two benches.
- The acute services program components including Diagnostic and Treatment, Inpatient Units, and Industrial/ Shop Facilities located on the lower bench.
- Public and visitor access, circulation, and parking generally separated from inpatient, staff, and service entries.
- The maternal child program separated by one floor level from the surgical suite.
- Outpatient services and administration for FVHC contained in a three storey configuration.
- EFVCC arranged generally in a two storey configuration with the radiation therapy treatment vaults taking advantage of the sloping topography of the 'knoll' to reduce the need for costly radiation shielding construction.
- The acute services and inpatient beds arranged in a five storey configuration with generally 64 med/surg beds on a floor.
- Structured parking for approximately 500 cars with the remaining 500 cars on grade.
- A provision made for future development on the corner of Gladwin Road and Marshall Road.
- The treed knoll substantially preserved to enhance the development of a healing environment with a circulation link providing views to the knoll and promoting wayfinding through the facility.
- A health care campus created by separating the outpatient, EFVCC, and acute services functions into approximately three distinct developments. This model serves to break down the program into smaller manageable entities which increases competition at tender, promotes flexibility in construction phasing, and assists in the management of resources during construction.


N
MARSHALL ROAD
Emergency
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Future Expansion
Ambulance
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Entry
Nutrition &
Food Services
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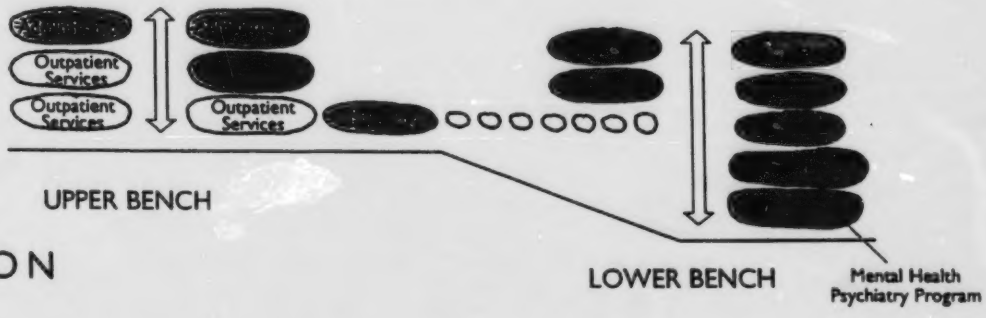
CPD
Loading
Energy Centre
Future
Expansion
LEVEL 1
HWY 1


Outpatient
Services
Outpatient
Services
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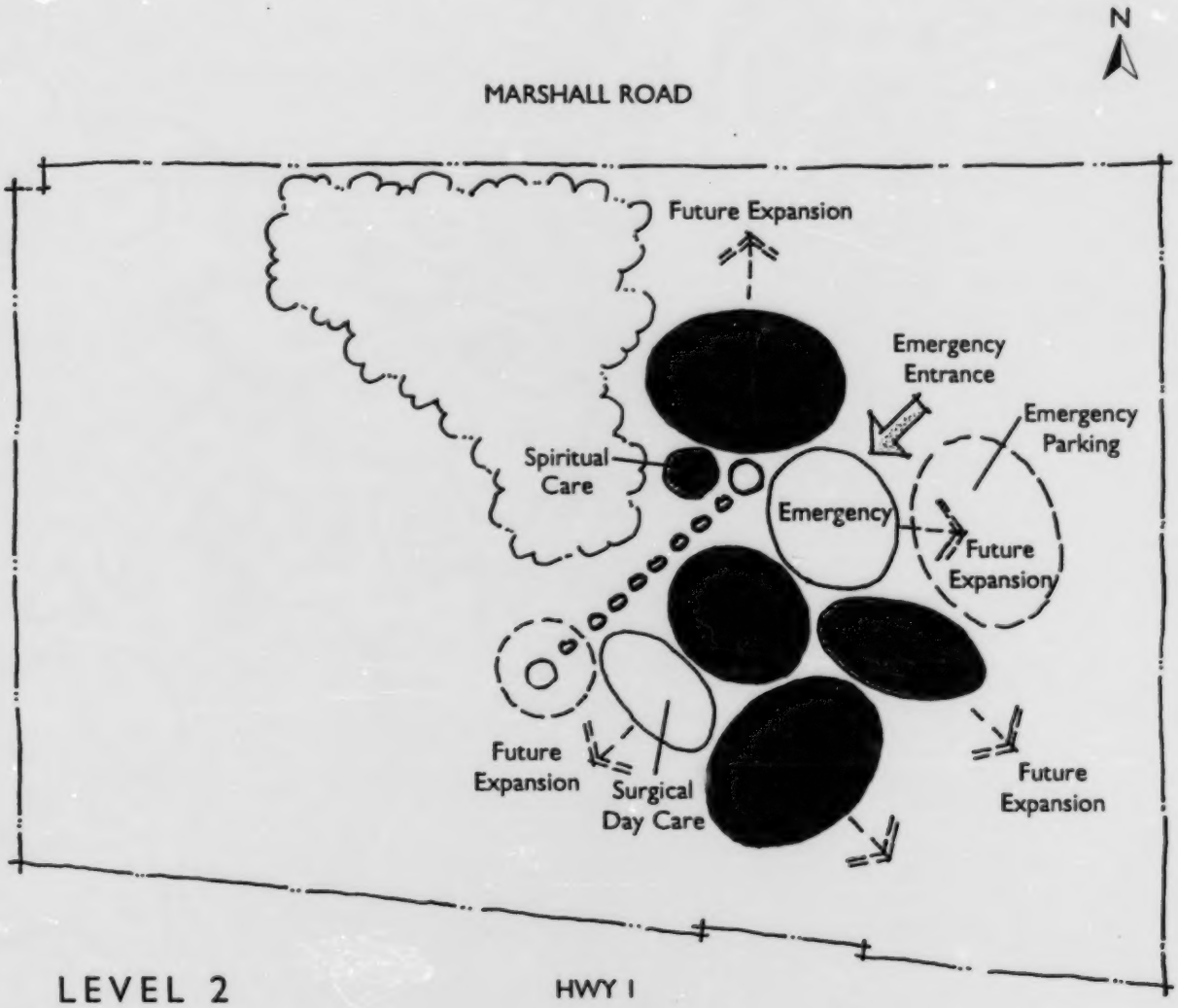
Services
UPPER BENCH
LOWER BENCH
Mental Health
Psychiatry Program

SECTION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MARSHALL ROAD
Future Expansion
Emergency Entrance
Emergency Parking
Spiritual Care
Emergency
Future Expansion
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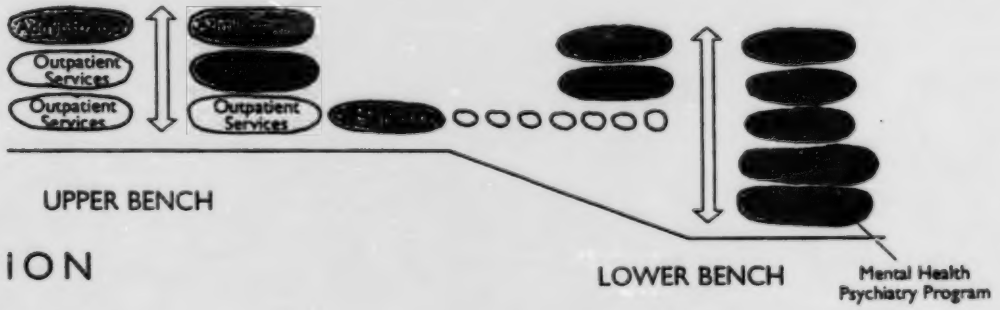
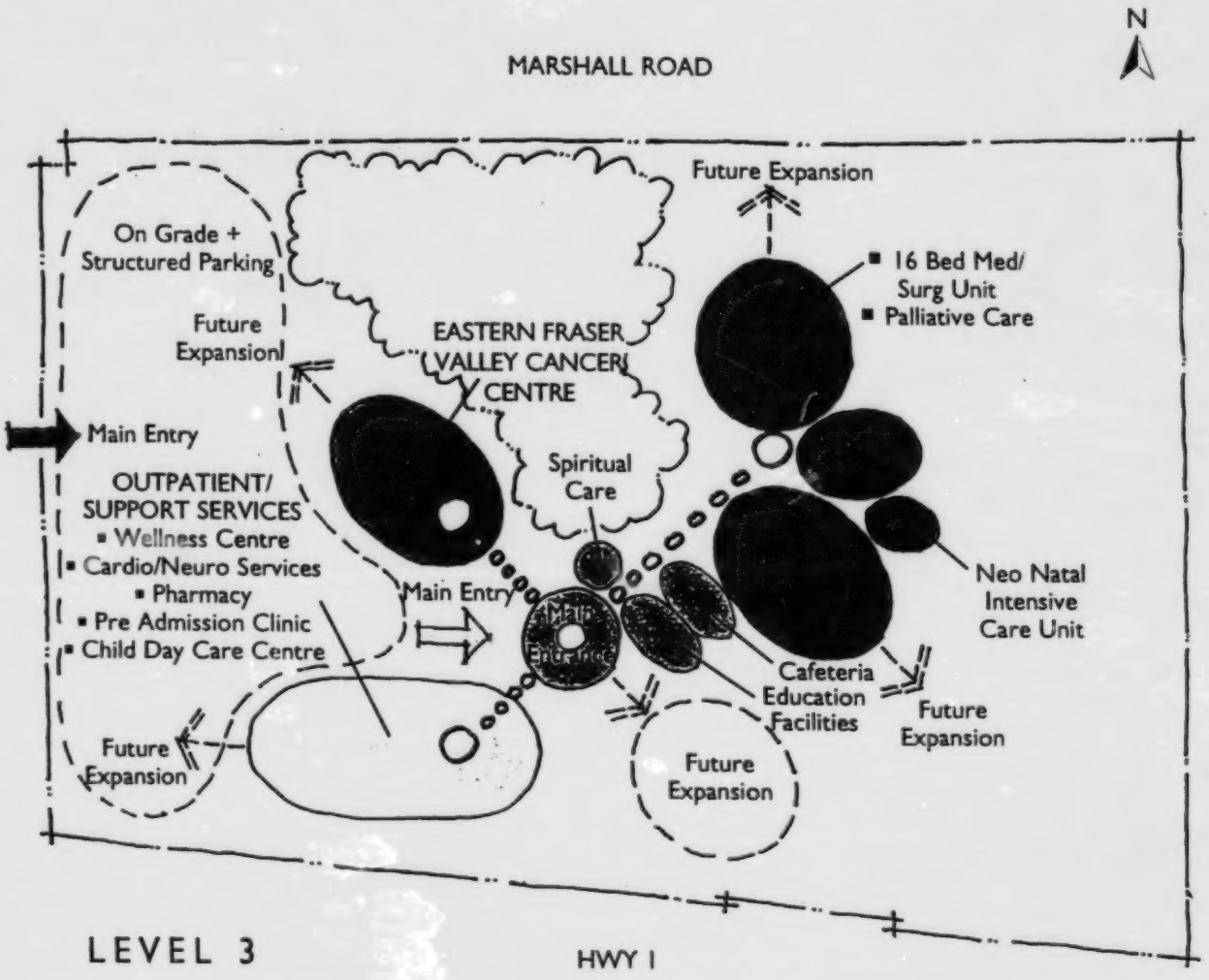
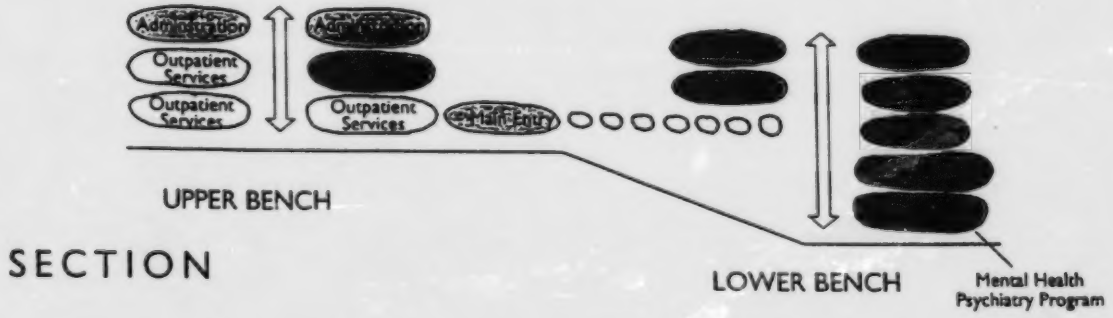
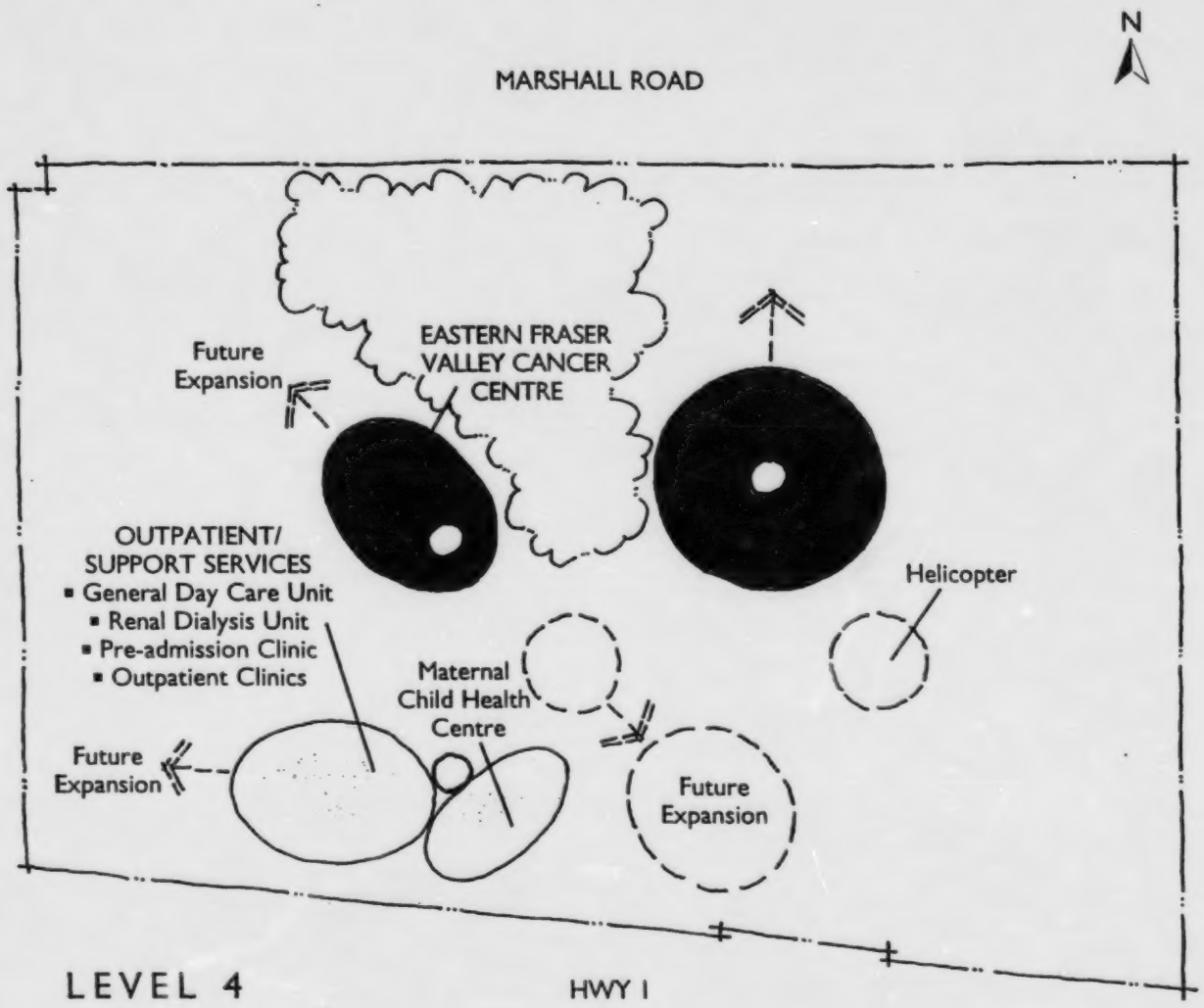
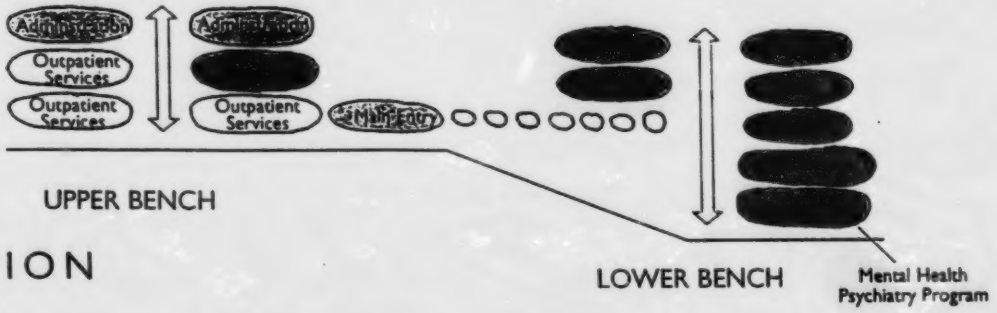
Surgical Day Care
Future Expansion
LEVEL 2
HWY 1

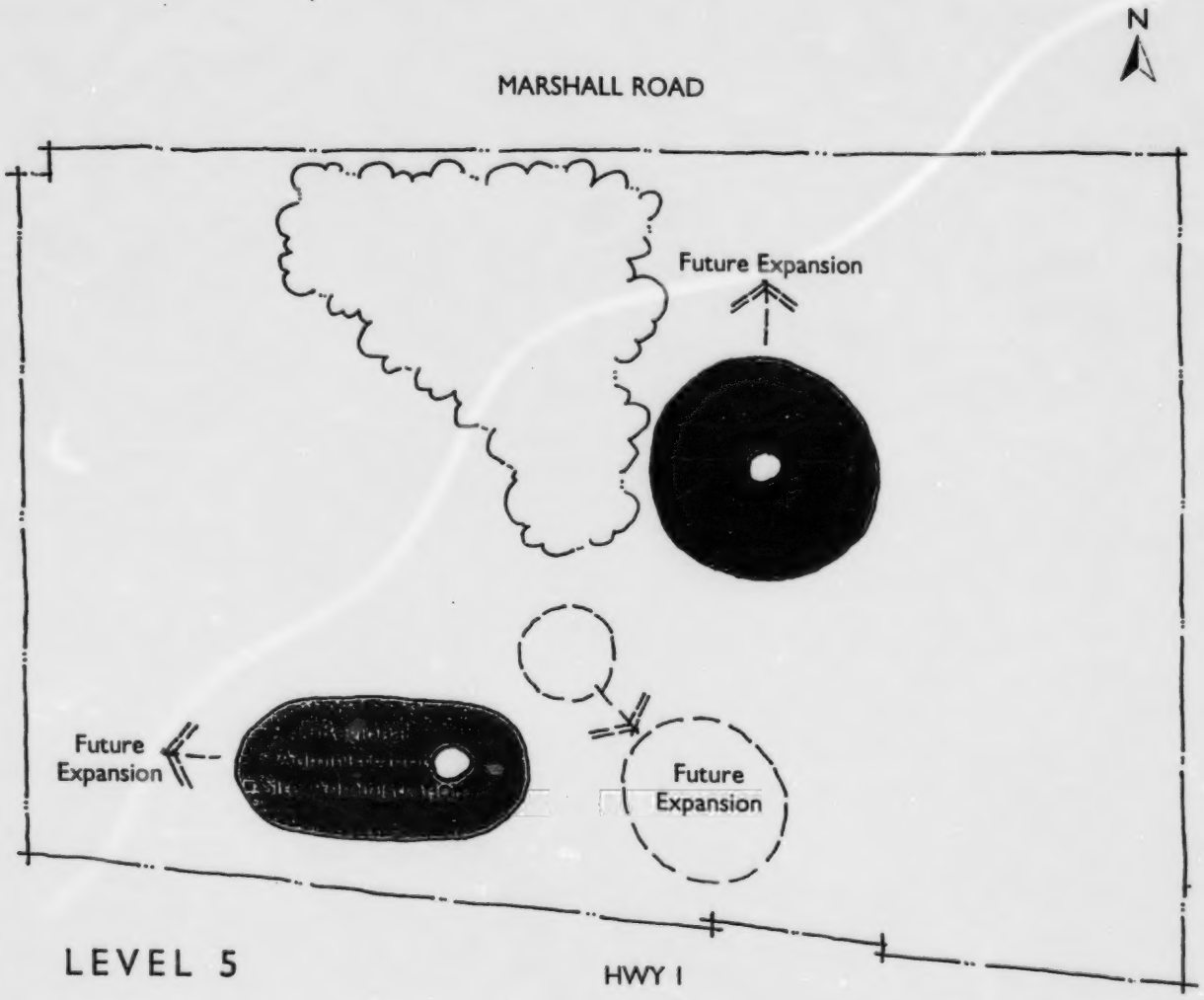

Outpatient Services
Outpatient Services
Outpatient Services
UPPER BENCH
LOWER BENCH
Mental Health Psychiatry Program
SECTION


N
MARSHALL ROAD
Future Expansion
On Grade + Structured Parking
Future Expansion
EASTERN FRASER VALLEY CANCER CENTRE
16 Bed Med/ Surg Unit
Palliative Care
Main Entry
Spiritual Care
OUTPATIENT/ SUPPORT SERVICES
Wellness Centre
Cardio/Neuro Services
Pharmacy
Pre Admission Clinic
Child Day Care Centre
Main Entry
Main Entry
Neo Natal Intensive Care Unit
Cafeteria
Education Facilities
Future Expansion
Future Expansion
Future Expansion
LEVEL 3
HWY 1


Administration
Outpatient Services
Outpatient Services
Outpatient Services
Main Entry
UPPER BENCH
SECTION
LOWER BENCH
Mental Health Psychiatry Program


N
MARSHALL ROAD
Future Expansion
EASTERN FRASER VALLEY CANCER CENTRE
OUTPATIENT/ SUPPORT SERVICES
▪ General Day Care Unit
▪ Renal Dialysis Unit
▪ Pre-admission Clinic
▪ Outpatient Clinics
Helicopter
Maternal Child Health Centre
Future Expansion
Future Expansion
LEVEL 4
HWY 1


Outpatient Services
Outpatient Services
Outpatient Services
UPPER BENCH
SECTION
LOWER BENCH
Mental Health Psychiatry Program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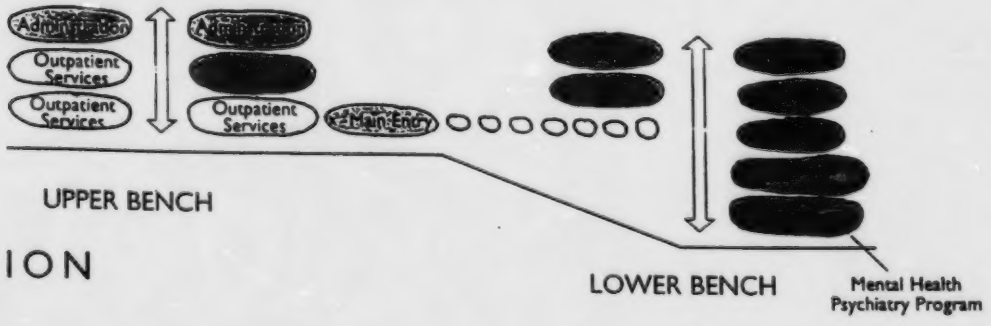
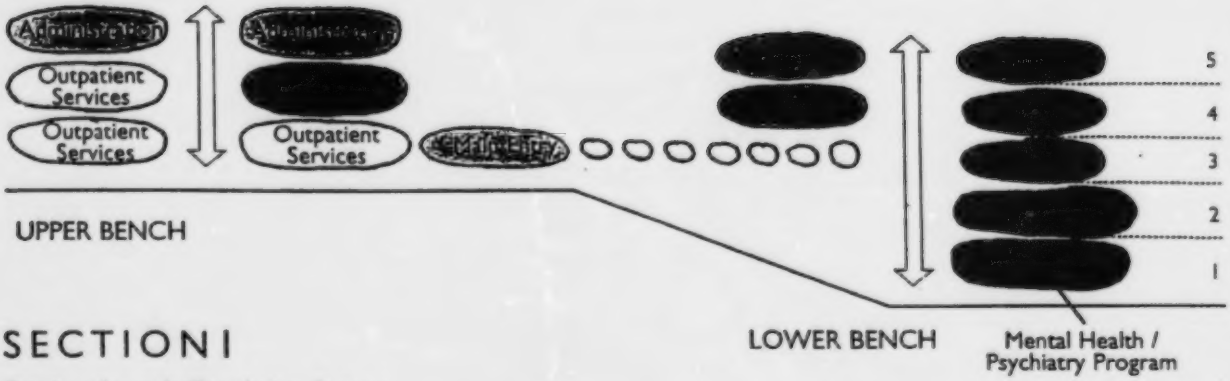
MARSHALL ROAD
Future Expansion
Future Expansion
Future Expansion
LEVEL 5
HWY 1

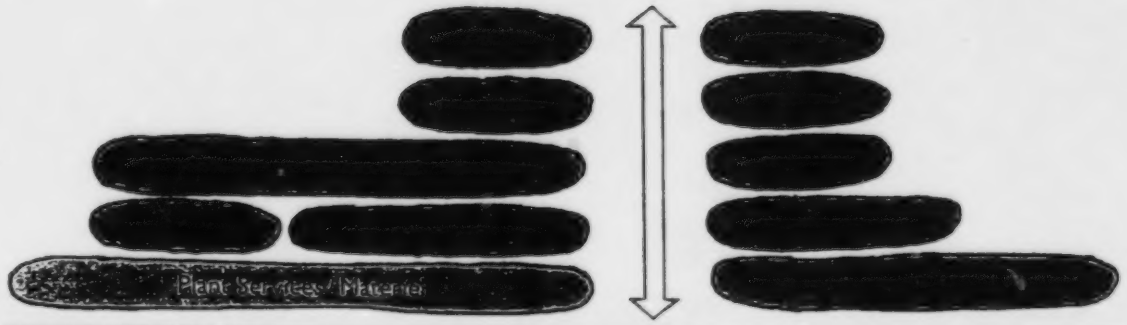

Outpatient Services
Outpatient Services
Outpatient Services
Main Entry
UPPER BENCH
LOWER BENCH
Mental Health Psychiatry Program

SECTION



SECTION I

Section through Circulation System



LOWER BENCH

SECTION2

North - South Section Through Acute Services

SECTION

4 PROGRAM LEVEL CAPITAL COST ESTIMATE

INTRODUCTION

The Pre-schematic Design Estimate is intended to provide a realistic assessment of the direct and indirect construction cost of the New Fraser Valley Health Centre and Eastern Fraser Valley Cancer Centre.

Estimated costs are based on the Functional Space Requirements Report, dated September, 2000, prepared by the RPG Partnership, and the Functional Relationship Diagrams prepared by Architectura in association with Stantec Architects.

The estimate does not represent the low bid price that will be submitted at the time of tendering. Our estimate represents a fair and reasonable value (average) based on the program information and analysis of the previous project cost for the Health Centre and the Kelowna Cancer Centre project.

Appropriate unit rates have been used in conjunction with the planned program areas to arrive at an estimated cost for the overall construction cost.

Site requirements have been costed based on a combination of the previous site plan and the proposed site development

AREAS

The gross floor area of the buildings as per the Functional Program document are as follows:

- Fraser Valley Health Centre 45,569 m^2
- Eastern Fraser Valley Cancer Centre 6,845 m^2

ESCALATION AND PRICING

The estimate has been priced at current rates taking into account the size and nature of the project. The unit rates utilised are considered competitive for a project of this type bid under a stipulated lump sum form of tender in an open market with a minimum of five (5) bids and constructed within a normal time frame.

- The escalation allowance is based on a two and one quarter percent (2.25%) per annum rate, compounded to the midpoint of the anticipated construction schedule.

The schedule is based on the following assumptions:

- Design and Documentation 18 months
- Construction (*forty two months – Escalation taken to midpoint)* 21 months

In the event that the above schedule alters, the escalation allowance should be adjusted accordingly.

SCOPE

The following items are specifically excluded from the estimate:

- Land acquisition costs
- Legal costs
- Contaminated soils removal

Taxes

The estimate includes the Provincial Sales Tax (PST) where applicable. The Federal Goods and Services Tax (GST) is included as the Payable amount for Health Care projects.

CONTINGENCIES

A design contingency of 5% has been included in the construction estimate to cover program modifications, unknown or unique design requirements due to the complexity of the building and site conditions.

A construction contingency of 2% has been included in the estimate to cover orders during construction.

An Escalation contingency of 7.5% has been included to cover inflation based on the schedule and rates noted in Section No. 4.

PROJECT COST SUMMARY	FVHC	FVCC	TOTAL
A. LAND COST			-
Land	-		
Legal Fees	-		
B. CONSTRUCTION	**$111,914,200**	**$14,017,800**	**$125,932,000**
Building	87,901,900	12,175,300	
On Site Work Costs	7,502,300	-	
Off Site Work Costs	1,800,500	-	
Design Contingency (Design & Program Changes)	4,860,200	608,800	
Construction Contingency (Changes During Construction)	2,041,300	255,700	
Escalation Contingency (Cost Escalation to Mid-Point of Construction)	7,808,000	978,000	
C. PROFESSIONAL FEES	**$13,276,000**	**$2,028,900**	**$15,304,900**
Programing	220,000	30,000	
Architectectural	6,300,800	817,200	
Structural	1,119,100	280,400	
Mechanical	2,238,300	315,400	
Electrical	1,119,100	245,300	
Quantity Surveying	380,500	78,500	
Acoustic	50,000	10,000	
Equipment Consultant	200,000	-	
Code	50,000	10,000	
Elevator Consultant	50,000	10,000	
Energy Analysis	100,000	20,000	
Dietary Consultant	100,000	-	
Geotechnical	50,000	10,000	
Interior Design & Signage	111,900	30,000	
Landscape	156,700	28,000	
Surveying	40,000	10,000	
Value Analysis	400,000	50,000	
Wind Study	30,000	-	
Disbursements ← make invisible	559,600	84,100	
D. FURNISHINGS & EQUIPMENT	**$39,198,000**	**$14,000,000**	**$53,198,000**
Medical Equipment	35,698,000	14,000,000	
Dietary Equipment	3,000,000	-	
Communications Equipment (telephone switch)	500,000	-	
E. MUNICIPAL & CONNECTION FEES	**$1,392,800**	**$183,300**	**$1,576,100**
Development Cost Charges	721,300	99,200	
Building Permits	671,500	84,100	
F. MANAGEMENT & OVERHEAD	**$4,174,600**	**$734,900**	**$4,909,500**
Project Management Fee	2,238,300	140,200 ?	
Owners Planning and Administrative Cost	720,000	405,000	
Project Insurance	716,300	89,700	
Project Commissioning, Move-In	500,000	100,000	
G. PROJECT CONTINGENCY 2%	**$1,160,800**	**$0**	**$1,160,800**
H. PAYABLE GOODS AND SERVICES TAX	**$2,036,300**	**$368,500**	**$2,404,800**
I. TOTAL PROJECT COST	**$173,152,700**	**$31,333,400**	**$204,486,100**

CONSTRUCTION COST ESTIMATE

Buildings		
Fraser Valley Health Centre	45,569	87,901,900
Eastern Fraser Valley Cancer Centre	6,845	12,175,300
Subtotal Buildings		**100,077,200**
Site		
On Site Costs		7,502,300
Off Site Costs		1,800,500
Subtotal Site		**9,302,800**
Subtotal Construction Costs		109,380,000
Design Contingency	5.0%	5,469,000
Construction Contingency	2.0%	2,297,100
Escalation Contingency	7.5%	8,786,000
Total Construction Costs		**125,932,100**

CONSTRUCTION COST ESTIMATE
BUILDING SPACE SUMMARY

Service Group		Quantity	Unit	Rate	Amount
A	**High/Medium Serviced Facilities (Post Disaster)**				
A1	General Medical/Surgical Inpatient Units	6,135	m2	1,900.00	11,656,500
A2	Maternal Child Program	3,912	m2	1,800.00	7,041,600
A3	Mental Health/Psychiatry Program	2,537	m2	2,000.00	5,074,000
A4	Palliative Care Unit	600	m2	1,750.00	1,050,000
A5	Critical Care Units (ICU/CCU/SSDU)	1,200	m2	2,460.00	2,952,000
A6	Emergency	1,475	m2	1,800.00	2,655,000
A7	Surgical Suite (incl. PACU)	1,965	m2	2,790.00	5,482,400
A8	Medical Imaging (incl. Nuclear Medicine)	2,200	m2	2,350.00	5,170,000
A9	Laboratory Medicine	1,250	m2	2,575.00	3,218,800
A10	Morgue/Autopsy	190	m2	2,200.00	418,000
A11	Biomedical Engineering	194	m2	1,700.00	329,800
Subtotal Component Area, A		21,658	m2	2,079.98	45,048,100
B	**Low Serviced Facilities (Post Disaster)**				
B1	Surgical Day Care	760	m2	2,460.00	1,869,600
B2	General Day Care (incl. Endoscopy)	800	m2	2,460.00	1,968,000
B3	Cardiopulmonary/Neurodiagnostic Services	493	m2	2,150.00	1,060,000
B4	Pharmacy	650	m2	2,250.00	1,462,500
B5	Health Information Management	838	m2	1,700.00	1,424,600
B6	Volunteers/Auxiliary Services	102	m2	1,600.00	163,200
B7	Spiritual Care Services	90	m2	1,600.00	144,000
B8	Main Entry Facilities	400	m2	1,700.00	680,000
Subtotal Component Area, B		4,133	m2	2,122.41	8,771,900
C	**Low Serviced Facilities (Non-Post Disaster)**				
C1	Wellness Centre (incl. Diabetes Education)	600	m2	1,600.00	960,000
C2	Outpatient Clinics	1,210	m2	1,690.00	2,044,900
C3	Pre-Admission Clinic	300	m2	1,690.00	507,000
C4	Rehabilitation Services	400	m2	1,900.00	760,000
C5	Site Administration	570	m2	1,700.00	969,000
C6	Education Facilities	470	m2	1,600.00	752,000
C7	Renal Dialysis Unit	680	m2	1,800.00	1,224,000
	Central Staff Facilities		m2	1,885.00	
Subtotal Component Area, C		4,230	m2	1,706.12	7,216,900

CONSTRUCTION COST ESTIMATE
BUILDING SPACE SUMMARY

Service Group		Quantity	Unit	Rate	Amount
D Industrial/Shop Facilities (Post Disaster)					
D1	Nutrition and Food Services	2,127	m2	1,800.00	3,828,600
D2	Material Services (incl. CPD)	1,340	m2	1,750.00	2,345,000
D3	Ambulance Station	(460)	m2	1,400.00	(644,000)
Subtotal Component Area, D		3,467	m2	1,780.67	6,173,600
E Industrial/Shop Facilities (Non-Post Disaster)					
E1	Plant Services	440	m2	1,690.00	743,600
E2	Linen/Housekeeping Services	455	m2	1,650.00	750,800
Subtotal Component Area, E		895	m2	1,669.72	1,494,400
F Regional/Other Facilities (Non-Post Disaster)					
F1	Regional Administration	(1,866)	m2	1,500.00	(2,799,000)
F2	Regional Material Services (Warehouse)	(3,500)	m2	1,400.00	(4,900,000)
F3	Child Day Care Facility	(200)	m2	1,800.00	(360,000)
Subtotal Component Area, F		(5,566)	m2	1,447.90	(8,059,000)
G Public Links/Corridors					
G1		600	m2	2,200.00	1,320,000
Subtotal Component Area, G		670	m2	2,200.00	1,320,000
Total Component Gross Area		**35,053**	**m2**	**1,997.69**	**70,024,900**
Unassigned Gross Area (Incl. Mech., ext. wall, major circulation, etc.)		10,516	m2	1,700.00	17,877,000
TOTAL EFVCC BUILDING GROSS AREA		**45,569**	**m2**	**1,928.99**	**87,901,900**

Notes:

1 Areas in brackets have not been included in the Total Component Gross Area, the Total Building Gross Area or the Construction Costs

CONSTRUCTION COST ESTIMATE
BUILDING SPACE SUMMARY

Service Group		Quantity	Unit	Rate	Amount
G	**High/Medium Serviced Facilities (Non-Post Disaster)**				
G1	Radiation Therapy Area	1,850	m2	2,400.00	4,440,000
G2	Clinical Physics	660	m2	1,600.00	1,056,000
G3	Dentistry	25	m2	1,650.00	41,300
Subtotal Component Area, G		2,535	m2	2,184.34	5,537,300
H	**Low Serviced Facilities (Non-Post Disaster)**				
H1	Entry Facilities	160	m2	1,600.00	256,000
H2	Patient Resources	180	m2	1,500.00	270,000
H3	Patient Counselling	200	m2	1,500.00	300,000
H4	General Clinic Area	700	m2	1,650.00	1,155,000
H5	Systemic Therapy Area	220	m2	1,700.00	374,000
H6	Pharmacy	130	m2	1,650.00	214,500
H7	Clinical Trials Area	80	m2	1,650.00	132,000
H8	Medical Staff Offices	540	m2	1,500.00	810,000
H9	Patient Information Management	300	m2	1,650.00	495,000
H10	Administration	180	m2	1,500.00	270,000
H11	Staff Support	125	m2	1,500.00	187,500
H12	Clinic Support	125	m2	1,500.00	187,500
Subtotal Component Area, H		2,940	m2	1,582.14	4,651,500
Total Component Gross Area		**5,475**	**m2**	**1,860.97**	**10,188,800**
Unassigned Gross Area (Incl. Mech., ext. wall, major circulation, etc.) (25%)		1,370	m2	1,450.00	1,986,500
TOTAL EFVCC BUILDING GROSS AREA		**6,845**	**m2**	**1,778.71**	**12,175,300**

CONSTRUCTION COST ESTIMATE

Service Group	Quantity	Unit	Rate	Amount
On Site Development				
Site Clearance	95,723	m2	1.00	95,700
Cut and Fill	203,471	m2	8.00	1,627,800
Asphalt Paving	36,449	m2	30.00	1,093,500
Concrete Walkways and Ramps	1,039	m2	55.00	57,100
Concrete Stairs & Bridges	1	sum	150,000.00	150,000
Retaining Walls	2,109	m2	250.00	527,300
Fencing to Oxygen Storage Tanks	30	m	150.00	4,500
Exterior Signage	1	sum	80,000.00	80,000
Site Furnishings	1	sum	50,000.00	50,000
Parking Control Boothe	2	no	15,000.00	30,000
Parking Lot Controls	4	no	25,000.00	100,000
Parking Entry and Exit Gates	4	no	6,000.00	24,000
Soft Landscaping	1	sum	500,000.00	500,000
Mechanical Site Services Underground retention, Sanitary, Storm, Water & Gas	1	sum	1,173,700.00	1,173,700
Electrical Site Services Telephone, Cable, High Voltage U/G duct, Site Lighting and Upgrading Hydro service for	1	sum	1,084,900.00	1,084,900
Demolition	1	sum	100,000.00	100,000
General Requirements and Fee - 12%				803,800
TOTAL ON SITE DEVELOPMENT				**7,502,300**

CONSTRUCTION COST ESTIMATE

Service Group	Quantity	Unit	Rate	Amount
Off Site Development				
BC Hydro Charges	1	sum	805,000.00	805,000
Telus Charges	1	sum	201,300.00	201,300
Cable Television	1	sum	10,000.00	10,000
Civil Work to Gladwin and Marshall	1	sum	591,300.00	591,300
General Requirements and Fee - 12%				192,900
TOTAL OFF SITE DEVELOPMENT				**1,800,500**

APPENDICES

APPENDIX A – DEFINITION OF TERMS

GENERAL

ADOLESCENT CARE - Care for persons aged 13 to 19 years.

ADULT CARE - Care for persons aged 20 years and over.

AMBULATORY CARE - Health care services provided by medical and/or other health care professionals to patients outside of the patients' home. While this term usually applies to outpatient services, it often includes services provided jointly to ambulant inpatients and outpatients.

APPLIED BASIC RESEARCH - Research for testing basic science theory/knowledge as it may apply to medical diagnosis, treatment or prevention. This form of research will typically make use of animals or animal tissues/cells and sometimes may use human tissues/cells.

BRACHYTHERAPY – Radiation is administered directly into a body cavity or interstitially using needles or ribbons. This term may also be used when applying a radiation source directly onto the surface of the body.

BUILDING GROSS AREA or BUILDING GROSS SQUARE METRES (BGSM) - The sum of all building floor areas measured to the outside face of exterior walls for all stories or areas having floor surfaces. Building gross area includes component gross areas, general circulation, mechanical and electrical space and exterior walls.

BGSM – Building Gross Square Metres.

CGSM – Component Gross Square Metres.

CHEMOTHERAPY – The treatment of disease by chemical agents taken orally or intravenously.

CHILD CARE – Care for persons younger than the age of 12 years.

CLINICAL RESEARCH - Research for the purpose of testing new concepts in health care or monitoring/evaluating health care processes. This form of research will typically involve direct contact with patients or specimens, or information thereof. This type of research may include:

- epidemiological information gathering and analysis
- development of new techniques in prevention, diagnosis, and treatment
- evaluation of treatment programs

COMPONENT or FUNCTIONAL COMPONENT - A cohesive grouping of activities or spaces related by service or physical arrangement. A planning component may or may not be a department since the term "department" refers to an administrative organization rather than a functional organization of space and activities.

COMPONENT/DEPARTMENTAL GROSS AREA or COMPONENT/DEPARTMENTAL GROSS SQUARE METRES (CGSM/DGSM) - That portion of a building assigned to a specific component, including net areas, internal circulation, partitions, building structure and small mechanical shafts. Component gross area is measured to the inside face of exterior walls and to the centre line of partitions adjoining other components or general circulation space.

CONVENIENT ACCESS - Physical access between rooms or components through the use of extended horizontal and/or vertical general circulation.

DEDICATED CIRCULATION - Circulation for specified people or material which may or may not require a control point.

DIRECT ACCESS - Physical access between rooms or components through the use of a minimal amount of horizontal and/or vertical general or internal circulation.

FTE/FULL TIME EQUIVALENT - A term used to express the conversion of a number of annual paid hours into the number of individuals who, if they were working a complete shift on a regularly scheduled basis, would be required to accommodate that number of hours.

GENERAL CIRCULATION - The system of connecting links (corridors, elevators, stairs, conveyors, etc.) providing access for people and materials to or between functional components.

GEOGRAPHICALLY LOCATED PHYSICIAN (GLP) - A Geographically Located Physician (GLP) is defined by one or more of the following:

- an individual who may be employed by, or receive a fee-for-service from, a hospital and/or university and who conducts all of his/her clinical practice on the hospital campus;

- an individual who may practice principally on a fee-for-service basis and receives an honorarium or stipend from the hospital and/or university for administrative and/or academic responsibilities while also maintaining a private practice office off the hospital campus;

- an individual who receives no payment from the hospital or university, but who chooses to conduct his/her clinical practice on the hospital campus.

HEADCOUNT - The translation of FTE's into the actual number of people. This includes part time and full time employees.

HOSPITAL CASES - The total number of patients discharged from hospital plus the number of deaths occurring in hospital.

INPATIENT - A patient who is admitted to a hospital for overnight care and to whom an inpatient bed has been assigned.

INPATIENT CARE - Care requiring admission to a hospital or other health care facility for a stay of at least twenty-four hours.

INTERNAL CIRCULATION - The system of connecting links (corridors, elevators, stairs, conveyors, etc.) within functional components, connecting rooms of a component or directly connecting contiguous components.

LINEAR ACCELERATOR – An external beam radiation therapy treatment unit, which produces high energy x-rays.

NET AREA or NET SQUARE METRES (NSM) - The horizontal area of space assignable to a specific function. The net area of rooms is measured to the inside face of wall surfaces.

PART-TIME (PT) PHYSICIAN - A PT physician is one who practices principally on a fee-for-service basis, however, he/she may receive a stipend or honorarium for academic and/or administrative responsibilities from a university or hospital. He/she does not have a permanent base on the hospital site and typically maintains an office practice in the community.

RADIATION THERAPY – The treatment of disease using ionizing radiation. This treatment may be administered externally (teletherapy), internally (brachytherapy) or through a radioisotope.

REGIONAL HEALTH BOARDS - A governance body of a specific geographical area responsible for the delivery of a range of health care services. The province is currently divided into 11 regional health boards, of which Fraser Valley is one, 94 local health areas (LHA's) with FVHR consisting of LHA's 32 Hope, 33 Chilliwack, 34 Abbotsford, 75 Mission and 76 Agassiz-Harrison; 34 Community Health Councils (CHC's); 7 Community Health Services Societies; and 59 Regional Districts with FVHR falling into RD 9 Fraser Valley.

RESTRICTED CIRCULATION - Internal circulation which can be entered only by passing a control point.

WORKLOAD MEASUREMENT (BCCA) -

Fully Admit Patient/Case: Referred to a BC Cancer Agency oncologist for assessment, follow-up and/or treatment.

Radiation Therapy:

Completed Course – A series of radiation treatments for a specific tumour or disease; may include combined radiation modalities but normally the time between treatment would not exceed four weeks.

Fractions – Number of visits for radiation treatment. The number of fractions (or visits) per course of treatment varies by patient and by protocol.

Fields – Number of radiation beams directed at a tumour site. There are usually multiple fields per fraction.

All Services:

New Consultation – When a patient is seen for the first time by an Agency oncologist of a specific discipline for the specific tumour site. A new consult involves a history, physical and assessment. If the patient is referred after discharge from active care at BCCA for the same tumour site, the assessing oncologist will perform a "repeat consultation".

Follow-Up Visit – Subsequent visits by patients on active treatment or follow-up visits, post active treatment.

Chemotherapy (ambulatory only):

Courses Started – For patients, who have not had chemotherapy before, have not had treatment for at least one year or who present with a new primary site.

Chemotherapy Visits – Number of outpatient visits (includes new chemotherapy visit).

Number of Drugs/Agents Given – Number of chemotherapy drugs a nurse administers to a patient as a bolus or infusion.

CLASSIFICATION OF HEALTH CARE LEVELS

PRIMARY CARE - Preventive, diagnostic and therapeutic health care provided by general practitioners and other health care professionals. This care can be sought directly by the patient, without referral, and is usually initiated through visits to private offices or clinics outside a hospital (except in the case of visits to hospital Emergency services).

SECONDARY CARE - Preventive, diagnostic and therapeutic health care provided by generalists and specialists within the medical disciplines of Medicine, Surgery, Obstetrics, Pediatrics, Psychiatry, and Physical Medicine and by other professionals. This care is often provided after referral from a source of primary care. The patient need not be ill (e.g., eye examinations) nor need he/she be a hospital patient, however, most services provided in hospitals are at the secondary care level.

TERTIARY CARE - Highly specialized medicine incorporating sophisticated and/or unique professional/technical skills and equipment or medical services that are centralized by reason of volume, limited professional resources, or extraordinary cost of services and is only available by referral.

QUATERNARY CARE - One of a kind, superspecialty-based service that may be either diagnostic or therapeutic in its role. These services are usually limited to one to a province and may accept inter-provincial, national, and international referrals.

APPENDICES

APPENDIX A – DEFINITION OF TERMS

GENERAL

ADOLESCENT CARE - Care for persons aged 13 to 19 years.

ADULT CARE - Care for persons aged 20 years and over.

AMBULATORY CARE - Health care services provided by medical and/or other health care professionals to patients outside of the patients' home. While this term usually applies to outpatient services, it often includes services provided jointly to ambulant inpatients and outpatients.

APPLIED BASIC RESEARCH - Research for testing basic science theory/knowledge as it may apply to medical diagnosis, treatment or prevention. This form of research will typically make use of animals or animal tissues/cells and sometimes may use human tissues/cells.

BRACHYTHERAPY – Radiation is administered directly into a body cavity or interstitially using needles or ribbons. This term may also be used when applying a radiation source directly onto the surface of the body.

BUILDING GROSS AREA or BUILDING GROSS SQUARE METRES (BGSM) - The sum of all building floor areas measured to the outside face of exterior walls for all stories or areas having floor surfaces. Building gross area includes component gross areas, general circulation, mechanical and electrical space and exterior walls.

BGSM – Building Gross Square Metres.

CGSM – Component Gross Square Metres.

CHEMOTHERAPY – The treatment of disease by chemical agents taken orally or intravenously.

CHILD CARE – Care for persons younger than the age of 12 years.

CLINICAL RESEARCH - Research for the purpose of testing new concepts in health care or monitoring/evaluating health care processes. This form of research will typically involve direct contact with patients or specimens, or information thereof. This type of research may include:

- epidemiological information gathering and analysis
- development of new techniques in prevention, diagnosis, and treatment
- evaluation of treatment programs

COMPONENT or FUNCTIONAL COMPONENT - A cohesive grouping of activities or spaces related by service or physical arrangement. A planning component may or may not be a department since the term "department" refers to an administrative organization rather than a functional organization of space and activities.

COMPONENT/DEPARTMENTAL GROSS AREA or COMPONENT/DEPARTMENTAL GROSS SQUARE METRES (CGSM/DGSM) - That portion of a building assigned to a specific component, including net areas, internal circulation, partitions, building structure and small mechanical shafts. Component gross area is measured to the inside face of exterior walls and to the centre line of partitions adjoining other components or general circulation space.

CONVENIENT ACCESS - Physical access between rooms or components through the use of extended horizontal and/or vertical general circulation.

DEDICATED CIRCULATION - Circulation for specified people or material which may or may not require a control point.

DIRECT ACCESS - Physical access between rooms or components through the use of a minimal amount of horizontal and/or vertical general or internal circulation.

FTE/FULL TIME EQUIVALENT - A term used to express the conversion of a number of annual paid hours into the number of individuals who, if they were working a complete shift on a regularly scheduled basis, would be required to accommodate that number of hours.

GENERAL CIRCULATION - The system of connecting links (corridors, elevators, stairs, conveyors, etc.) providing access for people and materials to or between functional components.

GEOGRAPHICALLY LOCATED PHYSICIAN (GLP) - A Geographically Located Physician (GLP) is defined by one or more of the following:

- an individual who may be employed by, or receive a fee-for-service from, a hospital and/or university and who conducts all of his/her clinical practice on the hospital campus;

- an individual who may practice principally on a fee-for-service basis and receives an honorarium or stipend from the hospital and/or university for administrative and/or academic responsibilities while also maintaining a private practice office off the hospital campus;

- an individual who receives no payment from the hospital or university, but who chooses to conduct his/her clinical practice on the hospital campus.

HEADCOUNT - The translation of FTE's into the actual number of people. This includes part time and full time employees.

HOSPITAL CASES - The total number of patients discharged from hospital plus the number of deaths occurring in hospital.

INPATIENT - A patient who is admitted to a hospital for overnight care and to whom an inpatient bed has been assigned.

INPATIENT CARE - Care requiring admission to a hospital or other health care facility for a stay of at least twenty-four hours.

INTERNAL CIRCULATION - The system of connecting links (corridors, elevators, stairs, conveyors, etc.) within functional components, connecting rooms of a component or directly connecting contiguous components.

LINEAR ACCELERATOR – An external beam radiation therapy treatment unit, which produces high energy x-rays.

NET AREA or NET SQUARE METRES (NSM) - The horizontal area of space assignable to a specific function. The net area of rooms is measured to the inside face of wall surfaces.

PART-TIME (PT) PHYSICIAN - A PT physician is one who practices principally on a fee-for-service basis, however, he/she may receive a stipend or honorarium for academic and/or administrative responsibilities from a university or hospital. He/she does not have a permanent base on the hospital site and typically maintains an office practice in the community.

RADIATION THERAPY – The treatment of disease using ionizing radiation. This treatment may be administered externally (teletherapy), internally (brachytherapy) or through a radioisotope.

REGIONAL HEALTH BOARDS - A governance body of a specific geographical area responsible for the delivery of a range of health care services. The province is currently divided into 11 regional health boards, of which Fraser Valley is one, 94 local health areas (LHA's) with FVHR consisting of LHA's 32 Hope, 33 Chilliwack, 34 Abbotsford, 75 Mission and 76 Agassiz-Harrison; 34 Community Health Councils (CHC's); 7 Community Health Services Societies; and 59 Regional Districts with FVHR falling into RD 9 Fraser Valley.

RESTRICTED CIRCULATION - Internal circulation which can be entered only by passing a control point.

WORKLOAD MEASUREMENT (BCCA) -

Fully Admit Patient/Case: Referred to a BC Cancer Agency oncologist for assessment, follow-up and/or treatment.

Radiation Therapy:

Completed Course – A series of radiation treatments for a specific tumour or disease; may include combined radiation modalities but normally the time between treatment would not exceed four weeks.

Fractions – Number of visits for radiation treatment. The number of fractions (or visits) per course of treatment varies by patient and by protocol.

Fields – Number of radiation beams directed at a tumour site. There are usually multiple fields per fraction.

All Services:

New Consultation – When a patient is seen for the first time by an Agency oncologist of a specific discipline for the specific tumour site. A new consult involves a history, physical and assessment. If the patient is referred after discharge from active care at BCCA for the same tumour site, the assessing oncologist will perform a "repeat consultation".

Follow-Up Visit – Subsequent visits by patients on active treatment or follow-up visits, post active treatment.

Chemotherapy (ambulatory only):

Courses Started – For patients, who have not had chemotherapy before, have not had treatment for at least one year or who present with a new primary site.

Chemotherapy Visits – Number of outpatient visits (includes new chemotherapy visit).

Number of Drugs/Agents Given – Number of chemotherapy drugs a nurse administers to a patient as a bolus or infusion.

CLASSIFICATION OF HEALTH CARE LEVELS

PRIMARY CARE - Preventive, diagnostic and therapeutic health care provided by general practitioners and other health care professionals. This care can be sought directly by the patient, without referral, and is usually initiated through visits to private offices or clinics outside a hospital (except in the case of visits to hospital Emergency services).

SECONDARY CARE - Preventive, diagnostic and therapeutic health care provided by generalists and specialists within the medical disciplines of Medicine, Surgery, Obstetrics, Pediatrics, Psychiatry, and Physical Medicine and by other professionals. This care is often provided after referral from a source of primary care. The patient need not be ill (e.g., eye examinations) nor need he/she be a hospital patient, however, most services provided in hospitals are at the secondary care level.

TERTIARY CARE - Highly specialized medicine incorporating sophisticated and/or unique professional/technical skills and equipment or medical services that are centralized by reason of volume, limited professional resources, or extraordinary cost of services and is only available by referral.

QUATERNARY CARE - One of a kind, superspecialty-based service that may be either diagnostic or therapeutic in its role. These services are usually limited to one to a province and may accept inter-provincial, national, and international referrals.

APPENDIX B – HISTORICAL SERVICES DATA

MSA GENERAL HOSPITAL

The following table presents historical service workloads of the MSA General Hospital of the Fraser Valley Health Region.

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
INPATIENT CARE					
Medical (incl. ALC, ICU, CCU, Rehab)					
# Separations				4,786	4,691
# Patient-Days				30,057	35,860
ALOS (Days)				6.3	7.6
% Occupancy				98.4	98.3
Beds Set-Up				88	88
Telemetry					
# Separations				1,290	1,239
# Patient-Days				3,741	3,849
ALOS (Days)				2.9	3.1
% Occupancy				*Incl. in Medical*	
Beds Set-Up				*Incl. in Medical*	
Surgical (incl. Gynecology)					
# Separations				2,949	3,102
# Patient-Days				13,874	15,491
ALOS (Days)				4.7	5.0
% Occupancy				73.4	62.0
Beds Set-Up				42	42
Obstetrical					
# Separations				1,801	1,824
# Patient-Days				4,563	4,443
ALOS (Days)				2.5	2.4
% Occupancy				67.1	56.5
Beds Set-Up				21	21
# Live Births					
- Normal				1,356	1,404
- Under 2500 Grams				55	67
Total				1,401	1,471
Neonatal Intensive Care					
# Separations				194	278
# Patient-Days				1,207	1,553
ALOS (Days)				6.2	5.6
% Occupancy				68.1	78.7
Beds Set-Up				5	5

MSA GENERAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
INPATIENT CARE (cont'd)					
Nursery (Newborns)					
# Separations				1,411	1,471
# Patient-Days				3,595	3,787
ALOS (Days)				2.5	2.6
% Occupancy				38.1	30.7
Beds Set-Up				25	25
# Post Natal Separations				27	33
Pediatric					
# Separations				1,123	1,161
# Patient-Days				3,274	3,221
ALOS (Days)				2.9	2.8
% Occupancy				56.6	51.5
Beds Set-Up				18	18
Intensive Care					
# Admission				219	238
# Patient-Days				745	965
ALOS (Days)				3.4	4.1
% Occupancy				60.8	60.4
Beds Set-Up				10	10
Coronary Care					
# Separations				444	370
# Patient-Days				1,510	1,204
ALOS (Days)				3.4	3.2
% Occupancy					*Incl. in ICU*
Beds Set-Up					*Incl. in ICU*
Psychiatric					
# Separations				732	769
# Patient-Days				6,666	7,601
ALOS (Days)				9.1	9.9
% Occupancy				89.5	96.5
Beds Set-Up				20	20
Alternate Level Care (ALC)					
# Separations (Incl. in Medical)				(525)	(511)
# Patient-Days (Incl. in Medical)				(7,201)	(16,063)
ALOS (Days)				13.7	31.4
% Occupancy				-	98.7
Beds Set-Up				25	25
Total Beds Set Up					
# Adult & Children				199	224
# Newborn (Bassinets)				5	5
# Total Separations (excl. newborn)				11,401	11,591
# Admissions Through Emergency as % of Total Admissions				62%	61%

MSA GENERAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
OUTPATIENT CARE					
Emergency Visits					
# Emergent					
# Urgent					
# Non-Urgent					
# Total Visits			42,222	43,641	41,780
% Admitted			16.5	58.8	60.5
Outpatient Clinic Visits					
# Lithium OP				334 '	219
# Miscellaneous OP				7,535 '	10,031
Surgical Day Care					
# Surgical Cases				7,006	7,379
Women's Health Clinic				Nil	Nil
Surgery					
"Other" Visits					
Pre-Admission Clinic				1,948 '	4,134
Diabetic Education					
# Visits				2,494	2,819
# Patients					
OBS Non-Stress Tests				1,027 '	1,680
Dietetic Counselling					
# Visits				1,334 '	2,140
# Patients					
Psychiatric Day Care					
# Visits					
# Patients					
Psychiatric Outpatient Clinic					
# Visits				1,004	1,078
G.I./G.U./ENT Unit (Endoscopies)					
# IP Procedures				170	138
# Day Care Procedures				881	1,102
Total				1,051	1,240
Cystoscopy					
# IP Procedures				96	75
# Day Care Procedures				1,498	1,736
Total				1,594	1,801

MSA GENERAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
CLINICAL SUPPORT SERVICES					
Surgical Suite					
# IP Cases				3,050	3,097
# Day Care Cases				3,851	4,010
Total				6,901	7,107
# Same Day Admits					
# Deliveries/Year				1,411	1,471
Patient/Family Counselling (SW)					
IP				7,045	6,236
OP				1,017	784
Total Patients				8,062	7,020
Total Interviews					
Total Contacts					
Medical Imaging					
IP Exams				12,798	12,644
OP Exams				46,390	46,389
Total				59,188 [2]	59,033 [2]
Nuclear Medicine				Nil	Nil
IP Scans					
OP Scans					
Total Scans					
Laboratory (000)					
# IP Units				1,347	1,428
# OP Units				1,210	1,209
# Referred In Units				143	161
# OC Units				328	312
Total				3,028	3,110
# Autopsies					
Cardiac Diagnostic					
# IP ECG				6,287	4,022
# OP ECG				10,105	10,647
Total				16,392	14,669
# IP Stress Tests				459	360
# OP Stress Tests				1,860	1,788
Total				2,319	2,148
Holter Monitor					
# IP Tests				0	0
# OP Tests				317	355
Total				317	355
Cardiac Ultrasound (Echocardiography)				Nil	Nil
# IP Tests					
# OP Tests					
Total					

MSA GENERAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
CLINICAL SUPPORT SERVICES (cont'd)					
Vascular Lab Procedures				Nil	Nil
# Cardiac Catheterizations					
# Angioplasties (PTCA)					
Total					
Neurological Diagnostic					
IP EEG				57	67
OP EEG				370	507
Total				427	574
IP EMG Exams				6	3
OP EMG Exams				121	133
Total				127	136
IP Evoked Response Tests				6	3
OP Evoked Response Tests				171	178
Total				177	181
Hemodialysis				Nil	Nil
# patients					
# visits					
Respiratory Care					
IP Treatments				21,962	12,561
OP Treatments				3,454	2,214
Total				25,416	14,775
Pulmonary Function					
IP Assessments				955	614
OP Assessments				3,525	3,025
Total				4,480	3,639
Bronchoscopy					
# IP Procedures				28	30
# OP Procedures				113	123
Total				141	153
Physiotherapy					
IP Attendances				13,180	11,314
OP Attendances				3,888	3,459
Total				17,068	14,773
Occupational Therapy					
IP Attendances				2,135	206
OP Attendances				533	986
Total				2,668	1,192
Pharmacy					
# IP Prescription/Doses				119,082	122,943
# OP Prescription/Doses				na	na
TPN Mixtures				494 [3]	627 [3]
IV Preps				4,321	6,702

MSA GENERAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
SUPPORT SERVICES					
Nutrition & Food Services					
# IP Meal Days				63,424	60,946
# OP Meal Days				98	144
# Non-Pt Meal Days				10,000	18,853
# ECU Meal Days				54,678	54,528
# Meal Days to Other				2,000	3,900
Total				130,200	138,371
Laundry					
# KG				696,348	727,904

Notes:

1 MSA Hospital implemented the Meditech ADT system in September 1998, therefore, some outpatient statistics are incomplete for fiscal 1998/99.

2 Includes general Radiography, CT, US, Mammography.

3 Prior to February 2000, MSA was preparing TPN for Mission Memorial Hospital.

CHILLIWACK GENERAL HOSPITAL

The following table presents historical service workloads of the Chilliwack General Hospital of the Fraser Valley Health Region.

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
INPATIENT CARE					
Medical [1]					
# Separations				2,672	2,907
# Patient-Days				18,672	20,590
ALOS (Days)				7.0	7.1
% Occupancy				96.6	99.8
Beds Set-Up				43	43
Telemetry					
# Patients					279
# Patient-Days					586
ALOS (Days)					2.1
% Occupancy				*Incl. in Medical*	
Beds Set-Up				*Incl. in Medical*	
Surgical (incl. Gynecology)					
# Separations				1,948	2,246
# Patient-Days				12,402	12,592
ALOS (Days)				6.4	5.6
% Occupancy				81.7	85.7
Beds Set-Up				37	37
Obstetrical					
# Separations				962	1,049
# Patient-Days				2,358	2,525
ALOS (Days)				2.5	2.4
% Occupancy					
Beds Set-Up					
Rehabilitation [2]					
# Separations				(121)	(126)
# Patient-Days				(1,697)	(2,020)
ALOS (Days)					
% Occupancy					
Beds Set-Up					
Neonatal Intensive Care				Nil	Nil
# Separations					
# Patient-Days					
ALOS (Days)					
% Occupancy					
Rate Capacity					
Nursery (Newborns)					
# Separations				777	872
# Patient-Days				1,807	2,062
ALOS (Days)				2.3	2.4
% Occupancy				36.4	41.1
Beds Set-Up				14	14

CHILLIWACK GENERAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
INPATIENT CARE (cont'd)					
Pediatric					
# Separations				487	468
# Patient-Days				1,339	1,244
ALOS (Days)				2.7	2.7
% Occupancy				66.8	90.1
Beds Set-Up				14 [3]	14 [3]
Intensive Care					
# Admission				322	338
# Patient-Days				1,095	1,082
ALOS (Days)				3.4	3.2
% Occupancy				86.5	78.9
Beds Set-Up				8	8
Coronary Care					
# Separations				543	500
# Patient-Days				1,683	1,300
ALOS (Days)				3.1	2.6
% Occupancy				*Incl. in ICU*	
Beds Set-Up				*Incl. in ICU*	
Psychiatric					
# Separations				635	660
# Patient-Days				5,004	5,765
ALOS (Days)				7.9	8.7
% Occupancy				81.6	86.8
Beds Set-Up				14	14
Alternate Level Care (ALC)					
# Separations				105	131
# Patient-Days				3,004	3,449
ALOS (Days)				28.6	26.33
% Occupancy				*Incl. in Medical*	
Beds Set-Up				*Incl. in Medical*	
Total Beds Set Up					
# Adult & Children				128	128
# Newborn (Bassinets)				14	14
# Total Separations (excl. newborn)				6,719	7,349
# Admissions Through Emergency as % of Total Admissions				61%	60%
# Live Births					
- Normal				757	851
- Under 2500 Grams				20	21
Total				777	872

CHILLIWACK GENERAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
OUTPATIENT CARE					
Emergency Visits					
# Emergent					
# Urgent					
# Non-Urgent					
# Total Visits				27,053	33,629
% Admitted					
Outpatient Clinic Visits					
# Lithium OP				na	na
# Miscellaneous OP				13,495	13,178
Surgical Day Care					
# Surgical Cases				4,932	5,147
Medical/General Day Care					
# Visits/Procedures					
Women's Health Clinic					
Surgery					
"Other" Visits					
Pre-Admission Clinic				1,337	1,496
Diabetic Education					
# Visits				635	988
# Patients					
OBS Non-Stress Tests				696	804
Dietetic Counselling					
# Visits				0	0
# Patients					
Psychiatric Day Care					
# Visits					
# Patients					
Psychiatric Outpatient Clinic					
# Visits				1,943	2,048
G.I. Unit (Endoscopies)					
# IP Procedures				137	157
# OP Procedures					
# Day Care Procedures				1,425	1,733
Total				1,562	2,890
Cystoscopy					
# IP Procedures				45	37
# SDC Procedures				274	375
Total				319	412

CHILLIWACK GENERAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
CLINICAL SUPPORT SERVICES					
Surgical Suite					
# IP Cases				2,028	2,323
# Day Care Cases				3,161	3,275
Total				5,189	5,598
# Same Day Admits				1,521	1,789
# Deliveries/Year					
Vaginal				584	686
C-Section				189	179
Total				773	865
Patient/Family Counselling					
IP Attendance Days				2,430	2,796
OP Attendance Days				352	176
Total Attendance Days				2,782	2,972
Medical Imaging [4]					
IP Exams				5,527	6,043
OP Exams				29,311	32,668
Total				34,838	38,711
Nuclear Medicine					
IP Scans					
OP Scans					
Total Scans					
Laboratory (000)					
# IP Units				1,023	782
# OP Units				542	1,023
# Referred In Units				240	160
# QC Units				264	264
Total				2,069	2,229
# Autopsies					
Cardiac Diagnostic					
# IP ECG				2,428	2,459
# OP ECG				6,090	6,732
Total				8,518	9,191
# IP Stress Tests				0	0
# OP Stress Tests				0	0
Total				0	0
Holter Monitor					
# IP Tests				0	0
# OP Tests				284	302
Total				284	302

CHILLIWACK GENERAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
CLINICAL SUPPORT SERVICES (cont'd)					
Cardiac Ultrasound (Echocardiography)					
# IP Tests					
# OP Tests					Nil
Total					
Vascular Lab Procedures					
# Cardiac Catheterizations					
# Angioplasties (PTCA)					Nil
Total					
Neurological Diagnostic					
IP EEG					
OP EEG					Nil
Total					
IP EMG Exams					
OP EMG Exams					Nil
Total					
IP Evoked Response Tests					
OP Evoked Response Tests					Nil
Total					
					Nil
Hemodialysis					
# patients					
# visits					
Respiratory Care					
IP Treatments					
OP Treatments					Nil
Total					
Pulmonary Function					
IP Assessments				3,518	4,560
OP Assessments				3,518	4,560
Total					
Bronchoscopy					
# IP Procedures				9	16
# SDC Procedures				51	44
Total				60	60
Physiotherapy					
IP Attendances				8,755	9,439
OP Attendances				2,397	3,487
Total				11,152	12,926
Occupational Therapy					
IP Attendances				3,372	2,592
OP Attendances				42	47
Total				3,414	2,639

CHILLIWACK GENERAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
CLINICAL SUPPORT SERVICES (cont'd)					
Pharmacy				3,414	2,639
# IP Prescription/Doses				77,681	84,516
# OP Prescription/Doses				na	na
TPN Mixtures				674	664
IV Preps				1,432	26,408
SUPPORT SERVICES					
Nutrition & Food Services					
# IP Meal Days				40,653	42,746
# OP Meal Days				0	0
# EC Meal Days				34,793	34,955
# Non-Pt Meal Days				22,558	15,840
# Meal Days to Other				0	2,593
Total				98,004	96,134
Laundry					
# KG				547,296	582,774

Notes:
1 Includes ALC, ICU, CCU and Rehab.
2 Included in Medical above.
3 Also includes Medical Short Stay.
4 Includes General Radiography, CT, US, Screening Mammography.

MISSION MEMORIAL HOSPITAL

The following table presents historical service workloads of the Mission Memorial Hospital of the Fraser Valley Health Region.

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
INPATIENT CARE					
Medical					
# Separations				1,340	1,373
# Patient-Days				7,881	8,986
ALOS (Days)				5.9	6.5
% Occupancy				86.6	93.2
Beds Set-Up				18	18
Surgical (incl. Gynecology)					
# Separations				866	887
# Patient-Days				4,367	3,750
ALOS (Days)				5.0	4.2
% Occupancy				85.7	81.2
Beds Set-Up				18	18
Obstetrical					
# Separations				534	495
# Patient-Days				1,151	938
ALOS (Days)				2.2	1.9
% Occupancy				40.7	35.5
Beds Set-Up				12	12
Rehabilitation *(Chilliwack General Hospital only)*					
# Separations				na	na
# Patient-Days				na	na
ALOS (Days)				na	na
% Occupancy					
Beds Set-Up					
Neonatal Intensive Care *(MSA Hospital only)*					
# Separations				na	na
# Patient-Days				na	na
ALOS (Days)				na	na
% Occupancy					
Rate Capacity					
Nursery (Newborns) (incl. Special Care Nursery)					
# Separations				394	316
# Patient-Days				768	562
ALOS (Days)				2.0	1.8
% Occupancy				18.2	12.9
Beds Set-Up				12	12

MISSION MEMORIAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
INPATIENT CARE (cont'd)					
Pediatric					
# Separations				172	179
# Patient-Days				334	283
ALOS (Days)				1.9	1.6
% Occupancy				*Incl. in Medical*	
Beds Set-Up				*Incl. in Medical*	
Intensive Care					
# Admission					
# Patient-Days				398	444
ALOS (Days)				2.8	3.0
% Occupancy				61.8	72.3
Beds Set-Up				4	4
Coronary Care					
# Separations					
# Patient-Days				502	624
ALOS (Days)				2.6	3.2
% Occupancy				*Incl. in ICU*	
Beds Set-Up				*Incl. in ICU*	
Psychiatric					
# Separations				60	99
# Patient-Days				177	208
ALOS (Days)				3.0	2.1
% Occupancy					
Beds Set-Up					
Alternate Level Care (ALC)					
# Separations				124	94
# Patient-Days				2,342 [1]	2,400 [1]
ALOS (Days)				18.9 [1]	25.5 [1]
% Occupancy					
Beds Set-Up					
Total Beds Set Up					
# Adult & Children					
# Newborn (Bassinets)					
# Total Separations (excl. newborn)				2,995	3,046
# Admissions Through Emergency as % of Total Admissions				57%	59%
# Live Births					
- Normal				387	311
- Under 2500 Grams				7	5
Total				394	316

MISSION MEMORIAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
OUTPATIENT CARE					
Emergency Visits					
# Emergent					
# Urgent					
# Non-Urgent					
# Total Visits				25,854	21,852
% Admitted					
Outpatient Clinic Visits					
# Lithium OP				na	na
# Miscellaneous OP				1,703	4,018
Surgical Day Care					
# Surgical Cases				1,879	2,315
Medical/General Day Care					
# Visits/Procedures				na	na
Women's Health Clinic					
Surgery				na	na
"Other" Visits					
Pre-Admission Clinic				414 [2]	1,117
Diabetic Education					
# Visits				na	na
# Patients					
OBS Non-Stress Tests				204 [3]	291
Dietetic Counselling					
# Visits				689	762
# Patients					
Psychiatric Day Care					
# Visits				na	na
# Patients					
Psychiatric Outpatient Clinic					
# Visits				na	na
G.I. Unit (Endoscopies)					
# IP Procedures				100	87
# OP Procedures					
# SDC Procedures				737	99 [4]
Total					
Cystoscopy					
# IP Procedures				35	28
# SDC Procedures				419	504
Total				454	532

MISSION MEMORIAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
OUTPATIENT CARE (cont'd)					
ENT Endoscopies					
# IP Procedures				1	1
# SDC Procedures				43	35
Total				44	36
CLINICAL SUPPORT SERVICES					
Surgical Suite					
# IP Cases				843	768
# Day Care Cases				1,532	1,942
Total				2,375	2,710
# Same Day Admits				809	737
# Deliveries/Year					
Vaginal				306	270
C-Section				88	49
Total				394	319
Patient/Family Counselling					
IP				2,555	2,449
OP				454	472
Total Patients				3,009	2,921
Total Interviews					
Total Contacts					
Medical Imaging					
IP Exams				2,430	2,329
OP Exams				22,876	24,291
Total				25,306	26,620
Nuclear Medicine					
IP Scans					
OP Scans					
Total Scans					
Laboratory (000)					
# IP Units				322	331
# OP Units				614	636
# Referred In Units				0	0
# QC Units				155	143
Total				1,091	1,110
# Autopsies					

MISSION MEMORIAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
CLINICAL SUPPORT SERVICES (cont'd)					
Cardiac Diagnostic					
# IP ECG				1,472	1,339
# OP ECG				3,542	3,896
Total				5,014	5,235
# IP Stress Tests				0	0
# OP Stress Tests				0	0
Total				0	0
Holter Monitor					
# IP Tests				0	0
# OP Tests				0	0
Total				0	0
Cardiac Ultrasound (Echocardiography)				Nil	Nil
# IP Tests					
# OP Tests					
Total					
Vascular Lab Procedures				Nil	Nil
# Cardiac Catheterizations					
# Angioplasties (PTCA)					
Total					
Neurological Diagnostic				Nil	Nil
IP EEG					
OP EEG					
Total					
IP EMG Exams				Nil	Nil
OP EMG Exams					
Total					
IP Evoked Response Tests				Nil	Nil
OP Evoked Response Tests					
Total					
Hemodialysis				Nil	Nil
# patients					
# visits					
Respiratory Care				Nil	Nil
IP Treatments					
OP Treatments					
Total					
Pulmonary Function					
IP Assessments				-	-
OP Assessments				842	495
Total				842	495

MISSION MEMORIAL HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
CLINICAL SUPPORT SERVICES (cont'd)					
Bronchoscopy					
# IP Procedures				0	1
# OP Procedures				2	1
Total				2	2
Physiotherapy					
IP Attendances				3,593	3,853
OP Attendances				965	1,138
Total				4,558	4,991
Occupational Therapy					
IP Attendances				21	33
OP Attendances				145	729
Total					
Pharmacy				166	762
# IP Prescription/Doses				23,999	29,182
# OP Prescription/Doses				na	na
TPN Mixtures				0 [3]	0 [3]
IV Preps				563	698
SUPPORT SERVICES					
Nutrition & Food Services					
# IP Meal Days				14,004	14,342
# OP Meal Days				0	0
# ECU Meal Days				27,268	27,196
# Non-Pt Meal Days				8,600	8,649
# Meal Days to Other				0	1,456
Total				49,872	51,643
Laundry					
# KG				253,152	272,616

Notes:

1 Days include ALC days as well as acute days.

2 Mission Memorial Hospital implemented the Meditech ADT system in October 1998, therefore, some 1998/99 outpatient statistics are incomplete for fiscal 1998/99.

3 Prior to February 2000, MSA was preparing TPN for Mission Hospital.

FRASER CANYON HOSPITAL

The following table presents historical service workloads of the Fraser Canyon Hospital of the Fraser Valley Health Region.

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
INPATIENT CARE					
Medical					
# Separations				747	726
# Patient-Days				5,099	4,696
ALOS (Days)				6.5	6.4
% Occupancy				65.0	83.0
Beds Set-Up				15	15
Surgical (incl. Gynecology)					
# Separations				na	na
# Patient-Days					
ALOS (Days)					
% Occupancy					
Beds Set-Up					
Obstetrical					
# Separations				84	35
# Patient-Days				133	46
ALOS (Days)				1.6	1.3
% Occupancy					
Beds Set-Up					
Rehabilitation *(Chilliwack only)*				Nil	Nil
# Separations					
# Patient-Days					
ALOS (Days)					
% Occupancy					
Beds Set-Up					
Neonatal Intensive Care *(MSA only)*				Nil	Nil
# Separations					
# Patient-Days					
ALOS (Days)					
% Occupancy					
Rate Capacity					
Nursery (Newborns)					
# Separations				33	9
# Patient-Days				50	12
ALOS (Days)				1.5	1.3
% Occupancy				0.04	0.04
Beds Set-Up				2	2
Pediatric					
# Separations				49	30
# Patient-Days				61	45
ALOS (Days)				1.3	1.5
% Occupancy				15.0	0.03
Beds Set-Up				1	1

FRASER CANYON HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
INPATIENT CARE (cont'd)					
Intensive Care				Nil	Nil
# Admission					
# Patient-Days					
ALOS (Days)					
% Occupancy					
Rate Capacity					
Beds Set-Up					
Coronary Care				Nil	Nil
# Separations					
# Patient-Days					
ALOS (Days)					
% Occupancy					
Rated Capacity					
Beds Set-Up					
Psychiatric					
# Separations				37	71
# Patient-Days				48	156
ALOS (Days)				1.3	2.2
% Occupancy				*Incl. in Medical*	
Beds Set-Up				*Incl. in Medical*	
Alternate Level Care (ALC)					
# Separations				11	2
# Patient-Days				163	7
ALOS (Days)				14.8	3.5
% Occupancy				*Incl. in Medical*	
Beds Set-Up				*Incl. in Medical*	
Total Beds Set Up					
# Adult & Children				16	16
# Newborn (Bassinets)				2	2
# Total Separations (excl. newborn)				936	906
# Admissions Through Emergency as % of Total Admissions				71%	70%
# Live Births					
- Normal				32	8
- Under 2500 Grams				1	1
Total				33	9

FRASER CANYON HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
OUTPATIENT CARE					
Emergency Visits					
# Emergent					
# Urgent					
# Non-Urgent					
# Total Visits				6,161	6,281
% Admitted					
Outpatient Clinic Visits					
# Lithium OP				na	na
# Miscellaneous OP				524	1,170
Surgical Day Care					
# Surgical Cases					
Medical/General Day Care					
# Visits/Procedures					
Women's Health Clinic					
Surgery					
"Other" Visits					
Pre-Admission Clinic				0	0
Diabetic Education					
# Visits					
# Patients					
Fetal Assessment Visits					
Dietetic Counselling					
# Visits					
# Patients					
Psychiatric Day Care					
# Visits					
# Patients					
Psychiatric Outpatient Clinic				0	0
# Visits					
G.I. Unit (Endoscopies)			*(no Endoscopies at Fraser Canyon Hospital)*		
# IP Procedures					
# OP Procedures					
# Day Care Procedures					
Total					
Surgical Suite			*(no Surgical Suite at Fraser Canyon Hospital)*		
# IP Cases					
# Day Care Cases				178	188
Total				178	188

FRASER CANYON HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
CLINICAL SUPPORT SERVICES					
# Same Day Admits					
# Deliveries/Year					
Vaginal				34	9
C-Sections				0	0
Total				34	9
Patient/Family Counselling					
IP Attendance Days				*(no information)*	*(no information)*
OP Attendance Days					
Total					
Medical Imaging					
IP Exams				1,047	835
OP Exams				5,496	5,786
Total				6,543	6,621
Nuclear Medicine				Nil	Nil
IP Scans					
OP Scans					
Total Scans					
Laboratory (000)					
# IP Units				93	85
# OP Units				234	242
# Referred In Units				0	0
# QC Units				116	82
Total				443	409
# Autopsies					
Cardiac Diagnostic					
# IP ECG				962	590
# OP ECG				975	1,365
Total				1,937	1,955
# IP Stress Tests				0	0
# OP Stress Tests				0	0
Total				0	0
Holter Monitor					
# IP Tests				0	0
# OP Tests				50	60
Total				50	60
Cardiac Ultrasound (Echocardiography)				Nil	Nil
# IP Tests					
# OP Tests					
Total					

FRASER CANYON HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
CLINICAL SUPPORT SERVICES (cont'd)					
Vascular Lab Procedures					
# Cardiac Catheterizations					
# Angioplasties (PTCA)					
Total				Nil	Nil
Neurological Diagnostic					
IP EEG					
OP EEG					
Total				Nil	Nil
IP EMG Exams					
OP EMG Exams					
Total				Nil	Nil
IP Evoked Response Tests					
OP Evoked Response Tests					
Total				Nil	Nil
Hemodialysis				Nil	Nil
# patients					
# visits					
Respiratory Care				Nil	Nil
IP Treatments					
OP Treatments					
Total					
Pulmonary Function					
IP Assessments				-	-
OP Assessments				0	37
Total				0	37
Bronchoscopy					
# IP Procedures					
# OP Procedures					
Total					
Physiotherapy					
IP Attendances				470	952
OP Attendances				4,207	6,241
Total				4,677	7,193
Occupational Therapy					
IP Attendances				2,135	206
OP Attendances				533	986
Total				2,668	1,192
Pharmacy		*(no Pharmacy at Fraser Canyon Hospital)*			
# IP Prescription/Doses					
# OP Prescription/Doses					
TPN Mixtures					
IV Preps					

FRASER CANYON HOSPITAL (cont'd)

Service/Unit of Measurement	95/96	96/97	97/98	98/99	99/00
SUPPORT SERVICES					
Nutrition & Food Services					
# IP Meal Days				4,666	4,895
# OP Meal Days					
# ECU Meal Days				16,691	16,698
# Non-Pt Meal Days				1,930	1,984
# Meal Days to Other				100	130
Total				23,387	23,707
Laundry *(all done at the CGH Laundry)*					
# KG				113,189	94,016

Notes:
1
2

APPENDIX C – EXISTING HOSPITAL STAFF PROFILE

2000/01 Budget FTE's	MSA GENERAL HOSPITAL SITE
	Inpatient Care Services
114.53	Medical/Surgical Inpatient Units
9.10	Telemetry/SSDU & Surgery
22.00	Intensive/Coronary Care Unit
15.20	Pediatric Inpatient Units
28.80	Obstetrical Inpatient Unit/L&D
12.30	Neonatal Intensive Care Unit
20.24	Psychiatric Inpatient Units
9.21	Supervisors/Foats/Porters
231.38	Subtotal
	Clinical Support Services
36.46	Surgical Suite (including PACU)
25.03	Medical Imaging
49.30	Laboratory Services (incl. Morgue & Autopsy)
7.14	Cardiopulmonary/Neurodiagnostics
9.37	Rehabilitation Services (PT & OT)
4.51	Social Work
18.21	Pharmacy Services
150.02	Subtotal
	Ambulatory Care Services/Community Programs
44.13	Emergency
6.50	Outpatient Clinics
7.70	Enhanced Care Management
0.70	IV Home Therapy
0.20	Sexual Assault Nurse Examiner
5.41	Psych After Hours Program
2.70	Pre-Admission Clinic
5.90	Day Surgery
5.00	Psychiatric Day Care
1.00	Diabetic Day Care
1.80	Palliative Care Outpatient
0.50	Infection Control
81.54	Subtotal
	Public and Administrative Services
5.00	Administration
23.30	Admitting
16.55	Health Records
1.00	Spiritual Services
45.85	Subtotal
	General Support Services
34.93	Materials Management (including CPD)
54.58	Nutrition and Food Services (including Clinical Nutrition)
32.47	Housekeeping Services
1.60	Laundry/Linen Services
11.46	Plant Services
3.79	Security
1.50	Biomedical Engineering
140.33	Subtotal
649.12	**TOTAL**

APPENDIX D – EXISTING MEDICAL STAFF PROFILES

The following table presents the FVHR Physician Resources as of 31 July 2000.

Department/Division	MSA Active/Provisional Hospital-Based [1] (GLP)	Total	CGH	MMH	FCH	Total
Anaesthesia	6	6	5	1	0	12
Emergency Medicine	5	5	7	0	0	12
Family Medicine		65	62	24 [2]	8 [2]	159 [2]
Laboratory Medicine						5 [3]
Anatomic Pathology						
Chemistry						
Hematology						
Microbiology						
Subtotal	11	76	74	25	8	188
Medicine						
Cardiology		0	0	0	0	0
Critical Care		0	0	0	0	0
Dermatology		1	0	0	0	1
Endocrinology		0	0	0	0	0
Gastroenterology		0	0	0	0	0
Infectious Diseases		0	0	0	0	0
Internal Medicine		6	4	2	0	12
Nephrology		0	0	0	0	0
Neurology		1	0	0	0	1
Physical Medicine & Rehabilitation		0	0	0	0	0
Respiratory Diseases		0	0	0	0	0
Rheumatology		1	0	0	0	1
Subtotal		9	4	2	0	15
Obstetrics & Gynecology		4	2	0	0	6
Pediatrics		4	1	0	0	5
Psychiatry		5	2	0	0	7
Radiology	9	9	1	1	0	11

APPENDIX D – EXISTING MEDICAL STAFF PROFILE

Department/Division	MSA Active/Provisional Hospital-Based [1] (GLP)	Total	CGH	MMH	FCH	Total
Surgery						
Cardiovascular & Thoracic		0	0	0	0	0
Dentistry		0	0	0	0	0
General Surgery		4	3	1	0	8
Neurosurgery		0	0	0	0	0
Ophthalmology		4	2	0	0	6
Orthopedics		4	2	1	0	7
Otolaryngology		2	1	0	0	3
Plastic Surgery		1	1	0	0	2
Urology		2	1	0	0	3
Subtotal		17	10	2	0	29
Other						
Nuclear Medicine		0	0	0	0	0
Oncology		0	0	0	0	0
Subtotal		0	0	0	0	0
Total		124	94	30	8	261
Total, Geographically Located Physicians	20					

Notes:

1 *A Geographically Located Physician (GLP) may be employed by a hospital and/or university and conduct his/her practice on the hospital's campus or he/she may practice principally on a fee-for-service basis and receive an honorarium or stipend from the hospital or university for administrative or academic responsibilities. GLP's are provided with office accommodation and support services on-site.*

2 *Physicians on LOA included in totals.*

3 *Laboratory Medicine included in FVHR total and not at individual sites.*

APPENDIX E – AMBULATORY CARE SERVICES PROFILE

In order for an ambulatory care program/service to be considered based at one of the acute care hospital sites, it must be in conformance with the Region's Vision, Mission and Strategic Direction statements and must meet one or more of the factors listed under Criteria A. Compliance with Criteria B through F, in addition to Criteria A, will enhance a program's or service's case for being provided on one of the acute care hospital sites.

A hospital-based ambulatory care program or service must:

A. Meet the current and projected health care needs of the Regional service area in an efficient and effective manner, and in coordination with other health care services both internally and externally, the program or service should:

   1. provide an environment which insures patient safety conditions superior to that possible in a private practice office or in a community-based location
   2. provide special resources (facilities, equipment/ supplies, or staff) not realistically available in private practice offices or in community health services
   3. provide direct patient care support to inpatient care programs on the hospital site, thus creating continuity and effectiveness of care
   4. provide services more economically than in a community-based location

B. Support teaching needs.

C. Support research endeavours.

D. Attract and maintain specialized medical expertise.

E. Provide clinical office practice facilities for full time on-site hospital medical staff.

F. Generate revenue.

Definition:
The definition of **ambulatory care** is expanding to include essentially any care provided in any setting other than an acute or chronic inpatient care setting.

ACTIVITY BY CLINICAL DEPARTMENT

The following list indicates the types of ambulatory care activity by Clinical Department that might be considered for location at one of the acute care sites. The Hospital abbreviations in (parentheses) behind selected activities indicates where activities of this type are currently located.

Department of Medicine

Dermatology **(MSA)**

- need for general use space (exam/consult rooms)
- Dermatologic Services including:
  - patch testing, photo-patch testing, photo-sensitivity testing
  - day care for the treatment of psoriasis, vitiligo using UVB and PUVA
  - laser treatment of skin lesions

Cardiology **(MSA)**

- need for general use space (exam/consult rooms)
- Cardiac Services including:
  - ECG, stress tests, non-stress tests, holter monitor
  - echocardiography (transthoracic/transesophegeal)
  - cardiac catheterizations
  - angioplasties
  - valve clinic
  - pacemaker clinic
  - diagnostic vascular lab (including continuous wave doppler, venous exam, Raynaud's exam, duplex ultrasound screening, ophthalmic doppler, etc.)
  - cardiac support group
  - cardiac rehab teaching & support group
  - cardiosciences program - education
  - cardiosciences program - exercise
  - cardiac clinic

Endocrinology

- Diabetic Day Care including: **(MSA)**
  - adrenal function testing
  - metabolic studies
  - diabetes education
  - endocrine testing
- diabetic teaching program **(MSA, MMH, FCH, CGH)**
- Pregnancy Clinic **(MSA)**
- Children's Clinic

Geriatric Medicine

- Geriatric Assessment including:
  - clinic & day hospital

Gastroenterology

- need for general use space (exam/consult rooms) **(MSA)**
- G.I. Investigation Services including:
  - Gastroscopy **(MSA, MMH, CGH)**
  - Colonoscopy **(MSA, MMH, CGH)**
  - Sigmoidoscopy **(MSA, MMH, FCH, CGH)**
  - liver biopsy **(MSA)**
  - pancreas biopsy
  - esophageal motility testing
- Medical Day Care (see page E10)

Internal Medicine **(MSA)**

- need for general use space (exam/consult rooms)

Hematology/Oncology

- need for general use space (exam/consult rooms) **(MSA)**
- Laboratory Medicine (see page E9)
- Medical Day Care (see page E10)
- pulse therapy services

Infectious Diseases

- need for general use space (exam/consult rooms)

Nephrology

- general use space (exam/consult rooms)
- Renal Clinic/Hemodialysis Unit including:
  - hemodialysis treatments
  - therapeutic plasma exchange
  - 24 hour BP monitoring
  - choridine testing
  - C.A.P.D.
- Home Dialysis Training

Neurology

- general use space (exam/consult rooms) **(MSA)**
- Neurosciences Diagnostic Services including:
  - EEG **(MSA)**
  - EMG **(MSA)**
  - evoked potential studies (somatosensory, magnetic)

  - stroke prevention program
  - headache clinic
  - motor nerve studies
  - sensory nerve condition studies
  - repetitive stimulation
  - neuroscience & head injury program
  - neurology clinic
  - neurosurgery clinic
  - F-Wave
  - H-Reflex
  - epilepsy testing/study/clinic
  - MS class
  - Parkinson class
- Medical Day Care (lumbar punctures) (see page E10)

Respiratory Medicine

- need for general use space (exam/consult rooms)
- Pulmonary Function Labs including:
  - lung function tests **(MSA)**
  - lung mechanics tests
  - bronchial challenge tests **(MSA)**
  - immunological tests
  - respiratory & exercise therapy **(MSA)**
- Sleep & Exercise Lab
- TB Clinic
- Endoscopy Suite including:
  - Bronchoscopy **(MSA)**
- Medical Day Care (see page E10)

Rheumatology

- general use space (exam/consult rooms)
- inflammatory arthritis class/amkylosis spondylitis class
- pulse therapy services
- RDU outpatient & clinic teaching
- immunosuppression therapy

Department of Surgery

Cardiovascular & Thoracic

- need for general use space (exam/consult rooms)
- Cardiac Services including:
  - ECG, stress tests, non-stress tests, holter monitor **(MSA)**
  - echocardiography (transthoracic/transesophegeal)
  - cardiac catheterizations
  - angioplasties
  - pacemaker clinic

  - diagnostic vascular lab (including continuous wave doppler, venous exam, Raynaud's exam, duplex ultrasound screening, ophthalmic doppler, etc.)
- Surgical Day Care (see page E10) **(MSA)**
- Minor Procedures Suite (see page E11) **(MSA)**

Dentistry

- need for general use space (exam/consult rooms)
- dental clinic

General Surgery

- need for general use space (exam/consult rooms)
- Medical Day Care (see page E10) **(MSA)**
- Surgical Day Care (see page E10) **(MSA)**
- Minor Procedures Suite (see page E11) **(MSA)**
- enterostomal therapy/training **(MSA)**

Gynecology (see Obstetrics & Gynecology)

Neurosurgery

- need for general use space (exam/consult rooms)
- Surgical Day Care (see page E10)
- Neurosciences Diagnostic Services including:
  - EEG
  - EMG
  - evoked potential studies (somatosensory, magnetic)
  - sleep studies
  - motor nerve studies
  - sensory nerve condition studies
  - repetitive stimulation
  - neuroscience & head injury program
  - neurology clinic
  - neurosurgery clinic
  - F-Wave
  - H-Reflex
  - epilepsy testing/study/clinic
  - MS class
  - Parkinson class
  - Halo Clinic
  - DBS (Deep Brain Implant) } Pain Management
    (Spinal Implant Clinic) }

Ophthalmology

- need for general use space (exam/consult rooms) **(MSA)**
- Surgical Day Care (see page E10) **(MSA)**
- Minor Procedures Suite (see page E11) **(MSA)**

- orthoptics clinic
- low vision clinic
- visual field service
- flourescein/angiography/photography
- retinal & corneal diseases, glaucoma
- psycho-visual testing
- ophthalmic electrodiagnostics
- ultrasonography
- Lions Eye Bank
- laser (argon & YAG) treatments

Orthopedics

- need for general use space (exam/consult rooms) **(MSA)**
- pre-op hip arthroplasty class **(MSA)**
- pre-op knee arthroplasty class **(MSA)**
- sports medicine clinic conducted in Physio
- orthopedic clinic **(MSA)**
- foot pain
- appliance application & teaching
- amputee clinic
- cast clinic **(MSA)**
- Surgical Day Care (see page E10) **(MSA)**
- Minor Procedures Suite (see page E11) **(MSA)**
- gait analysis

Otolaryngology

- need for general use space (exam/consult rooms)
- neuro-otology (audiological testing)
- ENG (vestibular testing)
- voice disorders clinic
- Surgical Day Care (see page E10) **(MSA)**
- Minor Procedures Suite (including removal of polyps, cauterization, myringotomies, biopsies, and endoscopic & stroboscopic exams) (see page E11) **(MSA)**

Plastic Surgery

- need for general use space (exam/consult rooms) **(MSA)**
- burns follow-up clinic
- Surgical Day Care (see page E10) **(MSA)**
- Minor Procedures Unit (see page E11) **(MSA)**

Urology

- need for general use space (exam/consult rooms) **(MSA)**
- Medical Day Care (see page E10) **(MSA)**
- Endoscopy Suite including cystoscopy **(MSA)**
- Minor Procedures Suite (vasectomies, biopsies, excision of

lesions, etc.) (see page E11) **(MSA)**
- Lithotripsy **(MSA)**

Vascular Surgery

- need for general use space (exam/consult rooms) **(MSA)**
- Surgical Day Care (see page E10) **(MSA)**
- Minor Procedures Suite (scleotherapy, minor amputations, etc.) (see page E11) **(MSA)**
- vascular lab

Department of Anaesthesia

- need for general use space (exam/consult rooms) **(MSA)**
- Pre-Admission/Clinic **(MSA)**
- Medical Day Care (see page E10) **(MSA)**
- ECT **(MSA)**
- Pain Clinic **(MSA)**

Department of Family Medicine

- Family Medicine Teaching Unit
- Cystic Fibrosis (adults)

Department of Obstetrics & Gynecology

Obstetrics

- need for general use space (exam/consult rooms) in support of a variety of possible clinics (e.g., breast feeding, hypertension, etc.)
- pre-natal tours **(MSA)**
- pre-natal program **(MSA)**
- labor & delivery outpatient assessment
- welcome home program
- pregnancy diabetic counselling **(MSA)**
- fetal assessment **(MSA)**
- Ultrasound (see page E9) **(MSA)**
- Surgical Day Care (see page E10) **(MSA)**
- Minor Procedures Suite (see page E11) **(MSA)**

Gynecology

- Women's Health Clinics, including:
  - general use space (exam/consult rooms)
  - counselling & treatment of menopause & PMS
  - rape crisis & abuse intervention
  - Regional Sexual Assault Program **(MSA)**
  - colposcopy/hysterscopy services **(MSA)**
  - minor procedures, including IVF, ovulation induction,

therapeutic donor insemination
  - osteoporosis
  - sexual dysfunction
  - adolescent gynecology
  - planned parenthood counselling
  - office-based infertility testing
- Surgical Day Care (see page E10) **(MSA)**
- Minor Procedures Suite (see page E11) **(MSA)**

Department of Pediatrics

- Child Health Clinics, including:
  - allergy & immunology (including asthma)
  - Asthma Clinic **(MSA)**
  - attention deficit disorders (proposed)
  - suspected child abuse & neglect program (SCAN)
  - child abuse/protection program **(MSA)**
  - child abuse identification program
  - cystic fibrosis
  - cleft lip & palate
  - spina bifida
  - Down's syndrome
  - developmental assessment clinic
  - gastroenterology
  - general surgical follow-up
  - visiting pediatrician consultations (including cardiology, diabetes, genetics, neurology, & rheumatology)
  - infant home monitoring
- Medical Day Care (see page E10) **(MSA)**
- Eating Disorders
- Surgical Day Care (see page E10) **(MSA)**
- Minor Procedures Suite (see page E11) **(MSA)**

Department of Psychiatry

- Day Care Programs **(MSA)**
- ECT **(MSA)**
- Psychiatric Follow-Up Service **(MSA)**
- Psychiatry Depot Clinic
- suicide program

ACTIVITY BY CLINICAL SUPPORT DEPARTMENTS

The following list indicates the types of ambulatory care activity by Clinical Support Department that might be considered for location on one or all of the acute care sites.

Radiology including:

- full range of outpatient imaging procedures (including urodynamic testing) **(MSA, CGH, MMH)**

Nuclear Medicine including:

- full range of outpatient imaging procedures **(MSA)**

Laboratory Medicine including:

- full range of outpatient laboratory testing **(MSA)**
- phlebotomy service **(MSA)**

Therapy Services including:

- full range of outpatient therapy services (including PT, OT, RT) **(MSA)**
- back class

Pharmacy including:

- outpatient dispensing and counselling **(MSA - limited)**

Social Work including:

- full range of outpatient and family counselling services **(MSA - limited)**

Psychology including:

- full range of outpatient and family dietetic counselling services

Nutrition & Food Services including:

- full range of outpatient and family dietetic counselling services **(MSA, CGH, MMH)**

OTHER AMBULATORY CARE ACTIVITY

Other ambulatory care activity that might be considered for location at one or both of the acute care sites includes:

Medical Day Care (Pediatric & Adult) in support of:

General Medicine
- lumbar punctures, glucose tolerance tests, phlebotomies, multiple diagnostic investigations, IV antibiotic therapy, transfusions **(MSA, CGH, MMH, FCH—not lumbar punctures, limited diag. investigations))**

Cardiology
- cardiac rhythm conversion with drugs **(MSA)**

Dermatology
- phototherapy

Endocrinology
- special endocrine diagnostic & therapeutic procedures, pituitary stimulation

Gastroenterology
- lactose tolerance tests, paracentesis **(MSA)**

Hematology
- bone marrow aspirates **(MSA)**

Infectious Diseases
- duodenal aspirations, treatment of CMV infection **(MSA)**

Nephrology
- kidney function tests

Respiratory Medicine
- thoracentesis **(MSA, CGH)**

Rheumatology
- pulse therapy **(MSA)**

Anaesthesia
- regional block procedures & recovery **(MSA, CGH, MMH)**

Other
- laser treatment
- myelogram **(MSA)**

Surgical Day Care (Pediatric & Adult) in support of: **(MSA, CGH, MMH)**

- a variety of day surgery procedures for the following subspecialties:
  - General Surgery
  - Orthopedics
  - Otolaryngology
  - Dental (Oral) Surgery
  - Plastic Surgery
  - Urology-
  - Vascular Surgery **(MSA, CGH only)**
  - Ophthalmology
  - Gynecology

- other procedures to include:
  - therapeutic abortions **(MMH)**
  - hysteroscopies
  - D & C 's **(MSA, CGH, MMH)**
  - outpatient laser treatments
  - selected endoscopies (e.g., laparoscopy, arthroscopy) **(MSA, CGH, MMH)**

* Brachytherapy included with FVCC.

Minor Procedures Suite (Pediatric & Adult) in support of:

- common local or no anaesthesia procedures including:
  - biopsies **(MSA, CGH, MMH)**
  - vasectomies **(MSA, CGH, MMH)**
  - excision of tumours **(MSA, CGH, MMH)**
  - sclerotherapy **(MSA, CGH, MMH)**
  - repair of lacerations or lesions **(MSA, CGH, MMH)**
  - endoscopic exams (sinus services) **(MSA, CGH)**
  - central dressing service **(MSA, CGH, MMH)**
  - varicose veins **(MSA, CGH, MMH)**
  - small hernias **(MSA, CGH, MMH)**

Other Multidisciplinary / Special Programs

- Risk Reduction Program including:
  - aneurysms clinic
  - cardiac support group
  - cardiac rehab teaching & support group **(CGH)**
  - cardiosciences program – education
  - cardiosciences program – exercise
  - lipid clinic
- Nutritional Counselling **(MSA, CGH, MMH, FCH)**
- Podiatry
- Bereavement Support Program **(MSA, CGH, MMH, FCH)**
- Native Services
- Home TPN
- Halo Clinic
- HIV Positive Case Management
- Methadone Clinic
- Travel Immunization Clinic
- STD Clinic

PROGRAM / SERVICE BY LOCATION

Notation Key:
- ● Primary program location
- ○ Secondary program location

	Hospital-Based				Community-Based	
	MSA	CGH	MMH	FCH	FVHR Service	Physician's Office
Medicine						
Dedicated Ambulatory Care Area						
Dermatology	●					●
Cardiology	●					
Endocrinology (Diabetic Day Care)	●	●	●	●		
Gastroenterology	●					
Geriatric Medicine	●	●	●			
Nephrology (incl. Hemodialysis, C.A.P.D., I.P.D)						
Neurology	●					
Rehabilitation Medicine						
Respiratory Medicine (incl. PF Labs & Endoscopies)	●					
Multi-Use Ambulatory Care Area (serving Dermatology, Internal Medicine, Hematology, Rheumatology)	●					
Surgery						
Dedicated Ambulatory Care Area	●					
Vascular & Thoracic						
Dentistry						
General Surgery (Enterostomal Therapy)	●					
Ophthalmology	●					
Orthopedics (Cast Clinic/Amputee Clinic)	●					
Otolaryngology						
Urology (Cystoscopy Suite)	●					
Multi-Use Ambulatory Care Area (serving Plastics, Vascular Surgery, Dentistry, Otolaryngology, Orthopedics, Urology)						
Anaesthesia						
Dedicated Ambulatory Care Area						
Pre-Admissions Clinic	●					
Obstetrics & Gynecology						
Dedicated Ambulatory Care Area						
Pregnancy Assessment						
Women's Health	●					
Pediatrics						
Dedicated Ambulatory Care Area	●					
Multi-Use Ambulatory Care Area (serving Child Health)		○	○	●		
Psychiatry						
Dedicated Ambulatory Care Area (serving Psych Day Programs)	●					

	MSA	Hospital-Based CGH	MMH	FCH	Community-Based FVHR Service	Physician's Office
Radiology Dedicated Ambulatory Care Area	●					
Nuclear Medicine Dedicated Ambulatory Care Area	●					
Laboratory Medicine Dedicated Ambulatory Care Area	●					
Therapy Services Dedicated Ambulatory Care Area	●					
Pharmacy Dedicated Ambulatory Care Area	●					
Social Work Dedicated Ambulatory Care Area	●					
Psychology Dedicated Ambulatory Care Area						
Nutrition & Food Services Dedicated Ambulatory Care Area	●					
Other Dedicated Ambulatory Care Area						
Risk Reduction Program	●					
Medical Day Care	●					
Surgical Day Care	●					
Minor Surgical Procedures	●					
Hostel						
Native Services						
Palliative Care						
Multi-Use Ambulatory Care Area						
Podiatry						
Bereavement Support Program						
Home TPN						
Halo Clinic						
HIV Positive Case Management						
Methadone Clinic						
Travel Immunization Clinic						
Chronic Pain Management						
Head Injury Program						
STD Clinic						

APPENDIX F – EXISTING BED DISTRIBUTION

The funded beds (those currently in operation) and total constructed beds (those in place but not currently funded) for the Fraser Valley Health Region acute care facilities as at 31 July 2000 was as follows:

	MSA		Chilliwack Gen'l.		Mission Memorial		Fraser Canyon		Total	
Service	Funded Beds	Constr. Beds	Funded Beds	Constr. Beds	Funded Beds	Constr. Beds	Funded Beds	Constr. Beds	Funded Beds	Constr. Beds
Medicine (or Med/Surg)	88		43	42*(4)**	36	(4)**	16	(10)**	188	
General Medicine										
Rheumatology										
Respirology										
Gastroenterology										
Oncology										
Neurology										
Subtotal, Medicine	88		43	42(4)	36	(4)	16	(10)	188	42(18)
Surgery	38	(6)**	37		Incl. in Med				79	
General Surgery										
Gynecology										
Otolaryngology										
Orthopedics										
Ophthalmology										
Vascular/Thoracic										
Urology										
Plastics										
Surgical Short Stay	4									
Subtotal, Surgery	42	(6)	37						79	(6)
Pediatrics	18		5		Incl. in Med/Surg				23	
Obstetrics	21		17		12	Incl. in Med/Surg			50	
Postpartum/Antepartum										
Antepartum										
Subtotal, Obstetrics	21		17		12				50	
Neonatal										
Special Care (bassinets)	5								5	
Subtotal, Neonatal	5								5	
Special Care	10		8		4				22	
Intensive										
Coronary Care										
Telemetry										
Medical Short Stay			9						9	
Subtotal, Special Care	10		17		4				31	
Palliative Care										
Psychiatry	20		14						34	
TOTALS	204	(6)	133	42 (4)	52	(4)	16	(10)	405	42(24)

Notes:

- **42 beds CWK: 28 ready to use but unfunded 16 have been included for Med/Surg, the other 14 have not been included as they are going to be used for Surgical Day Care. Another 28 beds are shelled in and could be constructed for Rehab/Geriatric assessment.*
- ***() These beds at MSA, Chilliwack, Mission and Hope are unfunded patient beds and the rooms are being used for office space.*

APPENDIX G – DEMOGRAPHY

TOTAL POPULATION

Population

The current population of the FVHR is almost a quarter of a million people, as shown below in Figure G1. By the year 2015 the population is projected to be approaching a third of a million.

Figure G1: Population: 1999, 2000, 2005, 2010 and 2015, FVHR and BC
Source: PEOPLE 25 - BC Stats, Ministry of Finance and Corporate Relations

Geographic Area	Year				
	1999	2000	2005	2010	2015
32 Hope	8,447	8,386	8,392	8,594	8,761
33 Chilliwack	71,434	72,545	80,626	89,722	99,296
34 Abbotsford	114,859	116,176	127,618	139,601	152,019
75 Mission	37,269	37,841	42,546	49,299	57,268
76 Agassiz - Harrison	8,135	8,227	8,753	9,295	9,843
FVHR	240,144	243,175	267,935	296,511	327,187
British Columbia	4,023,100	4,067,179	4,372,208	4,709,429	5,052,562

LHA Population as Percent of FVHR

Local Health Area 34 Abbotsford comprises almost half of the population of FVHR (Figure G2). The relative populations of the LHAs are not projected to change significantly from 2000 to 2015.

Figure G2: Local Health Area Populations as Percent of FVHR

Local Health Area	Year			
	2000	2005	2010	2015
32 Hope	3.4%	3.1%	2.9%	2.7%
33 Chilliwack	29.8%	30.1%	30.3%	30.3%
34 Abbotsford	47.8%	47.6%	47.1%	46.5%
75 Mission	15.6%	15.9%	16.6%	17.5%
76 Agassiz - Harrison	3.4%	3.3%	3.1%	3.0%

Population Growth Rates

Over the 15 years from 2000 to 2015 FVHR is projected to increase 36.2 percent in population, as compared to 25.6 percent for the Province (Figure G3).

Within the FVHR, LHA 75 Mission, is projected to have the greatest growth, increasing in population 51.3 percent from 2000 to 2015. Next is LHA 32 Chilliwack at 36.9 percent increase, followed by LHA 34 Abbotsford at 30.9 percent. LHA 76 Agassiz-Harrison has a projected population increase of 19.6 percent to 2015, while for LHA 32 Hope, the projected increase is only 4.5 percent.

Figure G3: Projected Population Growth Rates

Geographic Area	5 Years			15 Years
	2000-05	2005-10	2010-115	2000-15
32 Hope	0.1%	2.4%	1.9%	4.5%
33 Chilliwack	11.1%	11.3%	10.7%	36.9%
34 Abbotsford	9.8%	9.4%	8.9%	30.9%
75 Mission	12.4%	15.9%	16.2%	51.3%
76 Agassiz - Harrison	6.4%	6.2%	5.9%	19.6%
FVHR	10.2%	10.7%	10.3%	34.5%
British Columbia	7.5%	7.7%	7.3%	24.2%

POPULATION BY AGE GROUP

This section presents projected population to the year 2015 by the following age groups: 0-14, 15-44, 45-64, 65-74 and 75 and over.

Population

Figure G4 below presents the population of the five FVHR LHAs by age group, as well as the population of BC broken down by age group.

Figure G4: Populations by Age Group, FVRHD & BC
Source: PEOPLE 25 - BC Stats, Ministry of Finance and Corporate Relations

Year	0-14	15-44	45-64	65-74	75+	Total
32 Hope						
2000	1,588	3,264	2,101	851	582	8,386
2005	1,464	3,049	2,347	800	732	8,392
2010	1,466	2,953	2,592	779	804	8,594
2015	1,521	2,961	2,590	877	812	8,761
33 Chilliwack						
2000	15,433	30,469	15,237	6,366	5,040	72,545
2005	15,675	33,164	19,381	6,307	6,099	80,626
2010	16,222	35,706	24,071	6,819	6,904	89,722
2015	17,888	38,579	26,952	8,553	7,324	99,296
34 Abbotsford						
2000	25,566	50,814	23,884	8,170	7,742	116,176
2005	26,100	54,562	29,965	8,193	8,798	127,618
2010	26,733	58,073	36,022	9,556	9,217	139,601
2015	28,165	61,636	40,261	12,341	9,616	152,019
75 Mission						
2000	8,574	17,083	8,315	2,214	1,655	37,841
2005	8,495	18,531	11,208	2,416	1,896	42,546
2010	9,234	20,610	14,358	2,963	2,134	49,299
2015	10,798	23,529	16,364	4,172	2,405	57,268
76 Agassiz - Harrison						
2000	1,556	3,602	1,977	695	397	8,227
2005	1,482	3,543	2,428	726	574	8,753
2010	1,430	3,521	2,869	790	685	9,295
2015	1,556	3,496	2,995	1,015	781	9,843
FVHR Total						
2000	52,717	105,232	51,514	18,296	15,416	243,175
2005	53,216	112,849	65,329	18,442	18,099	267,935
2010	55,085	120,863	79,912	20,907	19,744	296,511
2015	59,928	130,201	89,162	26,958	20,938	327,187
BC						
2000	735,948	1,823,894	977,872	285,504	243,961	4,067,179
2005	722,647	1,866,000	1,195,601	306,164	281,796	4,372,208
2010	723,782	1,913,804	1,399,107	361,284	311,452	4,709,429
2015	757,576	1,980,274	1,496,795	476,010	341,907	5,052,562

Age Distribution of Population

The LHA with the highest percentage of persons aged 0-14 is LHA 75 Mission, with 22.7 percent. The LHA with the highest percentage of persons aged 65-74 is LHA 32 Hope with 10.1 percent. In addition, LHA 32 Hope is tied with LHA 33 Chilliwack for the highest percentage of persons age 75 and over, at 6.9 percent.

FVHR has a higher percentage of persons aged 0-14 (21.7%) than does BC (18.1%). FVHR also has higher percentages of persons age 65-74 and 75 and over than does BC.

Over the interval from 2000 to 2015 the percentages of persons aged 0-14 and 15-44 are projected to drop in all LHAs, FVHR and BC. Conversely, all LHAs, FVHR and BC are projected to have an increase in the percentage of persons age 45-64 from 2000 to 2015.

All jurisdictions except LHA 32 Hope and LHA 33 Chilliwack are projected to have an increase in the precentage of persons aged 65-74 from 2000 to 2015.

All jurisdictions except LHA 34 Abbotsford and LHA 75 Mission are projected to have an increase in the precentage of persons aged 75 and over from 2000 to 2015

Figure G5: Age Group Populations as Percent of Total Population

Year	0-14	15-44	45-64	65-74	75+	Total
32 Hope						
2000	18.9%	38.9%	25.1%	10.1%	6.9%	100.0%
2005	17.4%	36.3%	28.0%	9.5%	8.7%	100.0%
2010	17.1%	34.4%	30.2%	9.1%	9.4%	100.0%
2015	17.4%	33.8%	29.6%	10.0%	9.3%	100.0%
33 Chilliwack						
2000	21.3%	42.0%	21.0%	8.8%	6.9%	100.0%
2005	19.4%	41.1%	24.0%	7.8%	7.6%	100.0%
2010	18.1%	39.8%	26.8%	7.6%	7.7%	100.0%
2015	18.0%	38.9%	27.1%	8.6%	7.4%	100.0%
34 Abbotsford						
2000	22.0%	43.7%	20.6%	7.0%	6.7%	100.0%
2005	20.5%	42.8%	23.5%	6.4%	6.9%	100.0%
2010	19.1%	41.6%	25.8%	6.8%	6.6%	100.0%
2015	18.5%	40.5%	26.5%	8.1%	6.3%	100.0%
75 Mission						
2000	22.7%	45.1%	22.0%	5.9%	4.4%	100.0%
2005	20.0%	43.6%	26.3%	5.7%	4.5%	100.0%
2010	18.7%	41.8%	29.1%	6.0%	4.3%	100.0%
2015	18.9%	41.1%	28.6%	7.3%	4.2%	100.0%
76 Agassiz - Harrison						
2000	18.9%	43.8%	24.0%	8.4%	4.8%	100.0%
2005	16.9%	40.5%	27.7%	8.3%	6.6%	100.0%
2010	15.4%	37.9%	30.9%	8.5%	7.4%	100.0%
2015	15.8%	35.5%	30.4%	10.3%	7.9%	100.0%
FVRHD Total						
2000	21.7%	43.3%	21.2%	7.5%	6.3%	100.0%
2005	19.9%	42.1%	24.4%	6.9%	6.8%	100.0%
2010	18.6%	40.8%	27.0%	7.1%	6.7%	100.0%
2015	18.3%	39.8%	27.3%	8.2%	6.4%	100.0%
BC						
2000	18.1%	44.8%	24.0%	7.0%	6.0%	100.0%
2005	16.5%	42.7%	27.3%	7.0%	6.4%	100.0%
2010	15.4%	40.6%	29.7%	7.7%	6.6%	100.0%
2015	15.0%	39.2%	29.6%	9.4%	6.8%	100.0%

Population Growth Rates

Figure G6 below presents the projected percent change in population from 2000 to 2015 by age group.

BC is projected to have an increase of only 2.9 percent in the number of persons age 0-14 from 2000 to 2015, while the increase for FVHR is projected to be 13.5 percent.

LHA 32 Hope and LHA 76 Agassiz-Harrison are projected to have no increase or a decrease in the population of the 0-14 and 15-44 age groups. The three other LHAs are projected to have increases in population in these age groups which are well in excess of the increases projected for the Province.

The increase in the population of the 45-64 age group from 2000 to 2015 is projected to be 53.1 percent while from FVHR the projected increase is 73.1 percent. LHA 75 Mission is projected to have an increase in this age group of almost 100 percent.

The increase in population of the 65-74 and 75 and over age groups from 2000 to 2015 is projected to be higher for the Province (66.7% and 40.1% respectively) than for FVHR (47.3% and 35.8% respectively)

In summary, FVHR is projected to grow more quickly than the Province in the 0-14, 15-44 and 45-64 age groups than the Province. The Province is projected to grow more quickly than FVHR in the 65-74 and 75 and over age groups.

Figure G6: Population Growth by Age Group

Year	0-14	15-44	45-64	65-74	75+	Total
32 Hope						
2000-05	-7.8%	-6.6%	11.7%	-6.0%	25.8%	0.1%
2005-10	0.1%	-3.1%	10.4%	-2.6%	9.8%	2.4%
2010-15	3.8%	0.3%	-0.1%	12.6%	1.0%	1.9%
2000-15	***-4.2%***	***-9.3%***	***23.3%***	***3.1%***	***39.5%***	***4.5%***
33 Chilliwack						
2000-05	1.6%	8.8%	27.2%	-0.9%	21.0%	11.1%
2005-10	3.5%	7.7%	24.2%	8.1%	13.2%	11.3%
2010-15	10.3%	8.0%	12.0%	25.4%	6.1%	10.7%
2000-15	***15.9%***	***26.6%***	***76.9%***	***34.4%***	***45.3%***	***36.9%***
34 Abbotsford						
2000-05	2.1%	7.4%	25.5%	0.3%	13.6%	9.8%
2005-10	2.4%	6.4%	20.2%	16.6%	4.8%	9.4%
2010-15	5.4%	6.1%	11.8%	29.1%	4.3%	8.9%
2000-15	***10.2%***	***21.3%***	***68.6%***	***51.1%***	***24.2%***	***30.9%***
75 Mission						
2000-05	-0.9%	8.5%	34.8%	9.1%	14.6%	12.4%
2005-10	8.7%	11.2%	28.1%	22.6%	12.6%	15.9%
2010-15	16.9%	14.2%	14.0%	40.8%	12.7%	16.2%
2000-15	***25.9%***	***37.7%***	***96.8%***	***88.4%***	***45.3%***	***51.3%***
76 Agassiz - Harrison						
2000-05	-4.8%	-1.6%	22.8%	4.5%	44.6%	6.4%
2005-10	-3.5%	-0.6%	18.2%	8.8%	19.3%	6.2%
2010-15	8.8%	-0.7%	4.4%	28.5%	14.0%	5.9%
2000-15	***0.0%***	***-2.9%***	***51.5%***	***46.0%***	***96.7%***	***19.6%***
FVHR Total						
2000-05	0.9%	7.2%	26.8%	0.8%	17.4%	10.2%
2005-10	3.5%	7.1%	22.3%	13.4%	9.1%	10.7%
2010-15	8.8%	7.7%	11.6%	28.9%	6.0%	10.3%
2000-15	***13.7%***	***23.7%***	***73.1%***	***47.3%***	***35.8%***	***34.5%***
BC						
2000-05	-1.8%	2.3%	22.3%	7.2%	15.5%	7.5%
2005-10	0.2%	2.6%	17.0%	18.0%	10.5%	7.7%
2010-15	4.7%	3.5%	7.0%	31.8%	9.8%	7.3%
2000-15	***2.9%***	***8.6%***	***53.1%***	***66.7%***	***40.1%***	***24.2%***

Gender

This section describes the existing and projected gender ratio. Gender ratio is arrived at by dividing the number of female persons by the number of male persons and multiplying by 100. For example, a gender ratio of 103 would mean that there were 103 females for every 100 males.

Figure G7 below shows the gender ratio by age group for the 5 FVHR LHAs, VHR and BC. In general, the gender ratio increases with age, reflecting the fact that more boys are born than girls, males have higher mortality rates and males have lower life expectancy than females.

Almost all of gender ratios for the 0-14 age group are less than 100, indicating more boys than girls. Gender ratios for the 15-44 age group are relatively close to 100, with the exception of LHA 76 Agassiz-Harrison, which shows gender ratios of less than 80.

Gender ratios for the 45-64 age group are relatively close to 100, again with the exception of Agassiz-Harrison. Gender ratios for the 65-74 age group are over 100, with the exception of LHA 32 Hope, which has a relatively low gender ratio for this age group. For the oldest age group, 75 and over, the gender ratio is between 125 and 140, indicating many more females than males. The exception, again LHA 32 Hope, with a gender ratio which falls markedly from 2000 to 2015.

Over the projection period from 2000 to 2015, gender ratios increase for all jurisdictions shown below except LHA 32 Hope.

Figure G7: Gender Ratios, FVRHD and BC
Source: PEOPLE 25, BC STATS

Year	0-14	15-44	45-64	65-74	75+	Total
32 Hope						
2000	101.3	97.6	97.6	83.4	134.7	98.9
2005	95.5	98.4	99.7	86.2	104.5	97.7
2010	100.8	96.1	99.2	95.7	89.6	97.2
2015	94.5	98.2	100.3	93.6	86.2	96.5
33 Chilliwack						
2000	94.8	98.8	103.4	107.4	148.4	102.4
2005	93.9	100.4	103.0	106.8	148.5	103.2
2010	93.4	102.0	101.8	109.4	145.5	103.6
2015	93.2	102.2	103.6	106.8	145.3	103.9
34 Abbotsford						
2000	94.2	95.0	104.9	115.9	145.0	100.9
2005	94.6	96.5	101.3	116.2	147.7	101.2
2010	94.5	98.7	99.2	112.1	144.7	101.3
2015	94.9	98.6	99.3	109.6	145.9	101.4
75 Mission						
2000	89.8	97.7	91.9	97.0	136.1	95.9
2005	91.4	99.2	92.6	104.6	133.2	97.4
2010	89.8	100.5	95.3	112.2	140.0	98.9
2015	89.0	101.6	98.3	108.7	150.5	100.2
76 Agassiz - Harrison						
2000	94.0	68.2	79.2	97.4	140.6	80.3
2005	96.0	70.4	82.7	100.0	131.5	83.3
2010	100.3	74.3	79.3	114.7	126.8	85.8
2015	99.0	79.0	79.2	108.0	126.4	87.9
Total						
2000	93.8	95.5	100.8	108.0	144.6	99.7
2005	93.9	97.1	99.4	109.4	143.8	100.4
2010	93.7	99.1	98.5	110.7	141.0	101.0
2015	93.4	99.6	99.7	107.9	142.4	101.4
BC						
2000	94.7	98.5	100.5	106.0	154.6	101.4
2005	94.7	99.0	101.2	105.2	147.3	101.8
2010	94.7	99.7	101.5	106.5	139.8	102.2
2015	94.7	100.1	102.3	106.3	136.4	102.6

Figure G8 below presents the population figures from which the gender ratios were calculated.

Figure G8: Population by Age Group and Sex, FVRHD and BC
Source: PEOPLE 25, BC STATS

Year	Sex	0-14	15-44	45-64	65-74	75+	Total
34 Abbotsford							
2000	F	12,398	24,758	12,225	4,385	4,582	58,348
	M	13,168	26,056	11,659	3,785	3,160	57,828
2005	F	12,685	26,792	15,076	4,404	5,246	64,203
	M	13,415	27,770	14,889	3,789	3,552	63,415
2010	F	12,985	28,841	17,941	5,050	5,451	70,268
	M	13,748	29,232	18,061	4,506	3,786	69,333
2015	F	13,717	30,602	20,064	6,452	5,705	76,540
	M	14,448	31,034	20,197	5,889	3,911	75,479
75 Mission							
2000	F	4,056	8,443	3,983	1,090	954	18,526
	M	4,518	8,640	4,332	1,124	701	19,315
2005	F	4,057	9,227	5,389	1,235	1,083	20,991
	M	4,438	9,304	5,819	1,181	813	21,555
2010	F	4,370	10,332	7,005	1,567	1,245	24,519
	M	4,864	10,278	7,353	1,396	889	24,780
2015	F	5,084	11,855	8,111	2,173	1,445	28,668
	M	5,714	11,674	8,253	1,999	960	28,600
76 Agassiz - Harrison							
2000	F	754	1,461	874	343	232	3,664
	M	802	2,141	1,103	352	165	4,563
2005	F	726	1,464	1,099	363	326	3,978
	M	756	2,079	1,329	363	248	4,775
2010	F	716	1,501	1,269	422	383	4,291
	M	714	2,020	1,600	368	302	5,004
2015	F	774	1,543	1,324	527	436	4,604
	M	782	1,953	1,671	488	345	5,239
BC							
2000	F	357,916	904,898	490,047	146,930	148,152	2,047,943
	M	378,032	918,996	487,825	138,574	95,809	2,019,236
2005	F	351,441	928,122	601,300	156,943	167,824	2,205,630
	M	371,206	937,878	594,301	149,221	113,972	2,166,578
2010	F	352,104	955,386	704,831	186,357	181,566	2,380,244
	M	371,678	958,418	694,276	174,927	129,886	2,329,185
2015	F	368,561	990,866	756,826	245,319	197,246	2,558,818
	M	389,015	989,408	739,969	230,691	144,661	2,493,744

Year	Sex	0-14	15-44	45-64	65-74	75+	Total
32 Hope							
2000	F	799	1,612	1,038	387	334	4,170
	M	789	1,652	1,063	464	248	4,216
2005	F	715	1,512	1,172	375	374	4,148
	M	749	1,537	1,175	425	358	4,244
2010	F	736	1,447	1,291	381	380	4,235
	M	730	1,506	1,301	398	424	4,359
2015	F	739	1,467	1,297	424	376	4,303
	M	782	1,494	1,293	453	436	4,458
33 Chilliwack							
2000	F	7,512	15,141	7,745	3,296	3,011	36,705
	M	7,921	15,328	7,492	3,070	2,029	35,840
2005	F	7,590	16,611	9,836	3,257	3,645	40,939
	M	8,085	16,553	9,545	3,050	2,454	39,687
2010	F	7,836	18,026	12,140	3,563	4,092	45,657
	M	8,386	17,680	11,931	3,256	2,812	44,065
2015	F	8,630	19,496	13,715	4,417	4,338	50,596
	M	9,258	19,083	13,237	4,136	2,986	48,700
Total FVRHD							
2000	F	25,519	51,415	25,865	9,501	9,113	121,413
	M	27,198	53,817	25,649	8,795	6,303	121,762
2005	F	25,773	55,606	32,572	9,634	10,674	134,259
	M	27,443	57,243	32,757	8,808	7,425	133,676
2010	F	26,643	60,147	39,646	10,983	11,551	148,970
	M	28,442	60,716	40,266	9,924	8,193	147,541
2015	F	28,944	64,963	44,511	13,993	12,300	164,711
	M	30,984	65,238	44,651	12,965	8,638	162,476